A vastly revised and updated version of this preprint is available as a chapter in a book titled: Reorientation of activities and self-environment integration: A new theory of activities. The book is available from <https://www.amazon.com/dp/9357738096>.

Reorientation of Activities and Self-Environment Integration: A Novel Theory of Activities

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Abstract

Reorientation of activities and self-environment integration: this is a novel theory of activities that emerged from an intervention called multiple activities change intervention. This theory of activities divides activities into restoration, growth, and adjustment related activities. The quality of restoration-related activities can be enhanced, and thus the requirement for this group of activities is reduced and space is created for other group of activities. It has been argued that improving the quality of restoration-related activities has significant health related and other benefits. Pie-charts called activities-circles help us in elucidating the most important principles of the theory: imbalance of activities, reorientation of activities, principal reorientation related activities, and self-environment integration. The groupings of activities are similar to the groupings of needs—and the similarities and differences between activities and needs and their classifications have also been discussed. Personality can be considered an offshoot of activities, and the theory of activities seems to have parallels with Big-Two and Biggest-One of Five-Fac-

tor framework. The new theory has also been compared with Apter's reversal theory—and personality “enhancement” with prescription drugs has been analyzed in its perspective. Thus, the theory of activities has been compared with theories of needs and personality theories, and it stands out in comparison. Finally, I have tried to analyse the potential effects of related interventions on society in general and medicine in particular.

Keywords: activities, personality, needs, multiple activities change intervention, reorientation of activities and self-environment integration

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This preprint has not been peer reviewed. Author reports no conflict of interest. Date of creation: 27 August, 2020

Suggested citation: Agarwal A. Reorientation of Activities and Self-Environment Integration: A Novel Theory of Activities. Retrieved from psyarxiv.com/8jq4n

DOI: <https://doi.org/10.31234/osf.io/8jq4n>

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Section-One: Initial Conceptualizations

1. The Beginning of a Quest

From 1980s onwards, I started looking for a theory to explain the exceptional results that I was getting by applying a non-drug intervention that I now call multiple activities change intervention (MACI). I was experimenting in diverse conditions such as depression (Agarwal, 2020b), angina, backache, and asthma. But the outcome in none of them could be explained by existing theories and interventions; therefore, a new theory was needed. A long lag phase ensued. The initial concepts germinated in my mind during last decade only and prepared the groundwork of a more robust theory of activities described in later sections.

1.1. Some Initial Concepts

1.1.1. *What are Activities?*

I will take a broadest possible view of activities, and for our purpose, whatever little action we undertook—during previous 24 hours, or during last week or month—every bit can be included in our activities like sleeping, breathing, eating, drinking, thinking, walking, worrying, getting angry, watching TV, and rest of the mundane things including having sex. Thus, we are unique human beings with activities that are largely common.

An intervention based on a broader model would naturally change multiple activities—and its working definition could be: an intervention that empowers the individuals for simultaneously and systematically changing their multiple activities. Such empowered people can (and it is hoped that they will) strive to become better-quality individuals throughout their life—and thus multiple dimensions of society would improve. So, we can add to the definition that such empowered people have a lifelong choice but not the obligation to improve themselves and become better-quality individuals. Enriching the quality influences our physical, mental, and social wellbeing—that would make any such intervention a powerful tool for improving

health and healthcare practices.

1.1.2. *What do I Mean by Simultaneous and Systematic Change in Multiple Activities?*

We are comfortable with a convention view, dividing activities into behaviors, thoughts, and feelings. While behaviors like smoking or watching television can be observed, thoughts and feelings can be sometimes judged by accompanying behavior. The three are interlinked—and cognitive behavior therapy the most influential form of psychotherapy today, is “based on the notion that modifying maladaptive cognitions can lead to a decrease in emotional distress and problematic behaviors” (Hofmann, Sawyer, & Fang, 2010). This conventional view forces us to categorize individuals as smokers or non-smokers, and as anxious or depressed. Many hundreds of such categories have been devised and analyzed in scientific literature. It may come as a shock, but these widely practiced approaches may be unhelpful, and more robust and inclusive models have been advocated (Friedman, 2007, pp. 172-99). For details, see para 1.1.3.

ROASEI, which includes all the activities (see para 1.1.1), is also a broader approach advocating simultaneous and systematic change in multiple activities. Let us take the example of a farmer, a shopkeeper, and a manager. What is common between them? A farmer knows that crops need weeding. If weeding is not done water, nutrients, and even sunshine shall be shared by weeds leading to stunted growth of crops. The shopkeeper needs to replace slow moving items with fast moving items. Both are competing for the limited shelf space. A manager has limited budget for spending on staff. He would rather spend It on efficient employees. Any manager worth his name shall try to weed out inefficient employees.

How are these examples relevant to our own life? Human beings have activities. We need to weed out activities that are harmful and even those that are useless. Otherwise useful activities shall not flourish, simply because there are not enough resources left with the individual. We are very well aware of these principles. Unfortunately, such ideas appear to be old-fashioned and unscientific—as we do not presently have a scientific/ practical model for promoting useful activities.

1.1.3. *Activities of a Self-Healing Person and Activities of a Disease-Prone Person*

Activities have a strong bearing on our health. However, conventional epidemiological perspectives continue to consider only a few activities as relevant. The so-called risk factors are further divided into categories such as unhealthy behaviors, work related determinants, and psychological factors. Lack of physical activity, sedentary habits, smoking, unhealthy eating, excessive alcohol intake, and unsafe sex—these are some behaviors that are prime can-

didates for modification in every physician's mental list. At least for half a century now, patients also know that these behaviors would be frowned upon. Anxiety, depressive thoughts, hostility and excessive anger, acute and chronic stressful events, deprivation particularly in early life, social isolation, and social or workplace discrimination are some of the psychosocial factors generally considered relevant to disease causation, persistence, and exacerbation.

However, this conventional risk factor approach has been considered too narrow. Friedman (2007) wanted us to have a capacious all-inclusive focus—and introduced two antithetical personality constructs termed disease-prone and self-healing personalities. Self-healing and disease-prone, are they valid constructs—and why should they have our attention? Let us examine, whether today's dominant theories are adequate or inadequate to meet our needs. Friedman's argument was that so-called risk factors mostly do a poor job of predicting who will succumb. He iterated, "Most cookie lovers do not develop breast cancer, most couch potatoes do not suffer strokes, and it is even the case that most smokers do not develop lung cancer" (p. 173). While more than a hundred years of personality research has given us a general verdict that

a person who is chronically irritated, depressed, hostile, impulsive, bored, frustrated, lonely, or powerless is indeed more likely to develop illnesses and to die prematurely than is someone who generally feels emotionally balanced and effective, is in a satisfying job, has stable and supportive social relationships, and is well integrated into the community. (p. 172)

Through his constructs, Friedman wanted to "direct theory and research away from associations between single predictors and single outcomes, focusing instead on multiple-predictor, multiple-outcome developments over long periods of time" (p. 172).

There is something more that makes Friedman's personality constructs interesting. Research has "generally found that similar sorts of individual differences were simultaneously relevant to a wide array of health outcomes" (Friedman, 2008). This may simply mean that the causation (and therefore treatment) of many disorders could be possible on widely similar lines—say by converting a disease-prone person to self-healing person, as and when it is attempted through a broader change in activities. In a very similar context, we are deliberating on transdiagnostic approaches for medically unexplained symptoms and syndromes (Chalder et al., 2019), and psychological disorders (Kring & Sloan, 2010, pp. 283-309). It reflects beginning of a fundamental shift in our thinking that still considers every disease to be having a different cause and requiring a specific treatment.

The hypothesis of the 'disease-prone personality' has never been successfully challenged. Despite the early psychosomatic enterprise assuming specific-

ity, the data seem to fit a non-specific interpretation, namely that certain types of personality are unhealthy across a range of disease types. (Hyland, 2011, p. 88)

All our activities represent or make our personalities. So, the constructs of Friedman can be paraphrased as—*activities of a disease-prone person* and *activities of a self-healing person*. The ongoing argument in this paper is that a disease-prone person can become a self-healing person (Figure-1), and this qualitative change can be curative also. So, a disease may be healing simultaneously, while a disease prone person is becoming a self-healing person. Thus (as expected) a comprehensive change in activities can bring about a fundamental change in the individual.

1.1.4.A Very Simple Model of Activities

I initially conceived a simple quantitative model, where our activities were divided into two categories 'useful' and 'harmful or useless'. When useful activities are less, as is the case of a disease-prone person, the diseases would flourish. When useful activities are more, as is the case of self-healing person, the diseases would regress. This is a very intuitive model, based on the examples of farmer, shopkeeper, and manager that have been given above. However, two problems are obvious: Firstly, there is no simple way of categorizing our activities as useful, and useless or harmful. For example, sleeping is useful, but excessive sleep is not. Secondly, we have no practical method of quantifying the two different categories of activities. For a workable model, these two problems need to be sorted out. After that such a model may be able to direct theory and research away from individual risk factors and away from ill-defined and poorly-defined illnesses, bringing into focus constructs closer to self-healing—how to stay healthy, and if lost how to regain health with simple measures and at a low cost.

Figure 1. A very simple model of activities.

Chalder et al. (2019) are trying a transdiagnostic approach for medically unexplained symptoms. As per their study protocol, however, the subjects would continue to receive standard medical care provided by “specialised medical staff”. Therefore, the treatment becomes individualized and specific, and transdiagnostic becomes a misnomer—or at least its purpose is defeated.

On the other hand, the activities model (Figure 1) is intended to be nonspecific and powerful enough so as to lead to regression of common psychological diseases and medically unexplained conditions. Such approach (of converting a disease-prone person to a self-healing person) would not need the standard medical care and may prove valuable in simplifying the current chaos created by a plethora of ineffective approaches. After treatment is unified, there will be little justification in keeping multiple diagnostic labels. Thus, we would be moving towards de-medicalization on a very large scale (see paras 14, 15, and 16).

1.2. This Argument Seems Biased Towards Health and Illness

This section has introduced the initial concepts of a novel theory of activities, as it evolved. This introduction seems to be having a bias for health and illness. The origin of this bias can be traced back to the fact that MACI was primarily used for treatment of illnesses. This bias will also be visible in the concluding section, where I will discuss the potential effects of ROASEI primarily on medical sciences and health sector.

Section-Two: Activities Versus Needs

2. Another Logical way to Look at our Activities

There is no simple method of dividing activities into ‘useful’ and ‘harmful or useless’ categories in real life (see para 1.1.4 and Figure 1). To overcome that difficulty, I propose another classification, in which activities can be classified into: growth related (GR), adjustment related (AR),

and restoration related (RR), as shown in Table 1. This classification makes groups of activities according to their corresponding needs—or it seems parallel to the classification of needs (Alderfer, 1969; Maslow, 1943). But activities are not synonymous to needs—and needs of one group are not as a rule fulfilled by the corresponding group of activities alone. For example, to fulfill our growth needs, we are often required to make wider change across all three groups of activities (see Figure 2). This happens because to promote one activity, we are almost always constrained to curtail other activities. But that is not always true for the needs, and we try to fulfil all of them to the maximum extent possible.

RR activities lead to restoration or disruption of biological and/ or psychological equilibrium. Obvious examples are sleeping, taking rest, watching television, eating, consuming tobacco or alcohol, getting angry, feeling depressed or anxious. Our default activities are RR activities. Activities for adjusting to external or internal threats and realities are AR activities. A teenager getting admitted to a college in a far-off city must adjust to the hostel life: adjusting to new living conditions, new peers, and possibly very different food. A newly diagnosed diabetic must adjust to dietary regulations and physical activity routines. A person having angina will do everything to stop tobacco. Activities related to realization of potential are GR activities. Improving educational qualifications or technical skills, learning a new language, and reading a new book may all be GR activities.

2.1. These Groups are not Water-Tight Compartments

The above classification is not intended to separate the activities into water tight compartments. An activity can be a part of more than one group. Playing football can be a GR activity for a person wishing to be a professional football player. It could be a necessary physical (AR) activity for a person suffering from diabetes. It could just be an entertainment (RR) activity for a teenager wishing to have a good time. Buying new clothes may also be RR activity for a person, who has lost her wardrobe in a fire. But the same thing could be AR activity for a person, whose body size has changed.

Table 1

Activities may be Classified According to the Related Need

Maslow's Needs	ERG Theory of Needs	Types of Activities
Self-Actualization	Growth	Growth Related (GR)
Self-Esteem	Relatedness	Related to adjustment to self, society, and the environment (AR)
Social Needs		
Safety Needs	Existence	Related to restoration or disruption (default activities) (RR)
Physiological Needs		

Table 2
Three Types of Activities

Type of activities		
Growth related activities	Adjustment related activities	Restoration related activities*
Purpose/ outcome		
Related to realization of potential	Activities for adjusting to external or internal threats and reality	Related to restoring or disrupting biological and psychological equilibrium
Examples		
(Activities are not exclusive to one group)		
Higher education	Adjustments are needed, when life changes: onset of a disease, marriage, divorce, death of spouse, beginning of a hostel life.	Watching television, sleep, & rest. Smoking, alcohol, and drugs. Anxiety & anger. Probably attempting suicide will come here.
Creating wealth		
Developing a skill		
*Activities belong to this group by default.		

2.2. Then why Should we Group our Activities?

So, we do not and cannot separate the activities into water tight compartments. However, classifying gives us a bird's eye view of activities both qualitative and quantitative. It gives us a fair idea as to how we are spending our time and energy—and the desirable changes that we can have in our activities as a whole. It may also give us some insights: what micro strategies should we adopt to manipulate our activities for better adjustment and growth? It can provide us new insights into diseases like major depression (see para 6.3), bipolar illness (see para 6.4), and even cardiovascular diseases (Agarwal, 2020c).

In my view, personality theories are parallel attempts to analyze, classify, and understand our activities. Thus, for a century or more, the theories of personality are getting entrenched and validated. I have nothing against personality theories; however, a theory of activities may prove to be a far more superior tool for understanding and manipulating our activities. And grouping of activities, as it is being attempted here, may become a useful tool to analyze our activities.

3. Activities Versus Needs or Motivation

The classification of activities (that has been proposed in Table 1 and Table 2) has extraordinary similarity with the classifications of needs. Thus, comparing activities with needs, as well as comparing their classifications be-

comes important for semantics purposes. To the best of my knowledge, such comparison has not been previously attempted.

Activities are proximal, while needs are distal to us. So, activities are meant to fulfil or address our needs. Broad similarities and essential differences between the two are expected and should be understood. An agreement exists between two most prominent classifications of needs provided by Maslow (1943) and Alderfer (1969), as shown in Table 1. If we compare them with classification of activities, every need has a related category of activities. However, this is not a simple copy and paste operation, as significant differences have been found in the details.

I will compare categories of activities with Alderfer's ERG classification of needs. Growth category exists in both and the meaning of growth is nearly similar in two classifications. I say nearly because there are important differences. Some growth needs of need theorists may be considered RR activities under the classification of activities. Particular examples are consumerism and materialism, which have been explained later in this paper (see para 5.2).

Relatedness of ERG has become adjustment for grouping of activities. This is logical as relatedness is a need, and to address that need we should adjust our activities. Alderfer's relatedness is confined to interpersonal relations. However, adjustment in case of activities has a wider meaning, and it includes adjustments to biological (internal), social, political, economic, cultural, and physical environments (also see para 7 and Figure 12). RR activities address existence needs, but there is a difference. RR

activities include two types of activities that would either restore or disrupt biological and/ or psychological equilibrium. Thus, getting angry or feeling anxious or depressed are also RR activities. Any activity that cannot be classified as growth or adjustment related, becomes RR activity by default. Thus, attempt to commit suicide becomes a RR activity, which cannot be classified as existence need.

3.1. A Need Cannot be Fulfilled by Changes in Related Activities Alone

Growth needs cannot be addressed by changing GR activities alone. Relatedness needs cannot be addressed by changing AR activities alone. Existence needs cannot be addressed by changing RR activities alone.

Usually multiple restoration (R), growth (G), and adjustment (A) related activities are required to address just one type of need (Figure 2). This is true for all types of needs, whether it is growth, relatedness, or existence. For example, let us look at the activities of students, who want to perform better in their examinations (growth need). But sleep time, television viewing time, and time spent with their friends and family will also have to be reduced. Physical exercise is often advocated to keep the mind active and healthy.

A man wants to win over a woman (relatedness need). He needs to quit smoking (RR activity). He needs to develop interpersonal and emotional skills (GR activities). He also needs to spend more time thinking about and actually meeting the woman (AR activity).

3.2. Our Activities Have no Hierarchy

Figure 2. Usually multiple activity types are modified to address one type of need.

Needs are supposed to have a hierarchy—and according to Maslow (1943), lower level needs should be satisfied, before experiencing higher level needs. Maslow kept self-actualization needs at the top—followed by esteem, social, safety, and physiological needs. Alderfer (1969) in his ERG theory retained the notion of need hierarchy without requiring it to be strictly ordered. Several decades later, Maslow (1987) too considerably diluted his position: “We have spoken so far as if this hierarchy were a fixed order, but actually it is not nearly so rigid as we may have implied.” (p. 51)

Contrary to needs, different group of activities do not have an inherent hierarchical interrelationship, as there cannot be any lower or higher-level activities. Activities are tools, while needs are goals. Activities just like tools have quality, as explained later in this paper (see para 3.5). Many kinds of tools are required for a single job, similarly multiple activities are required to fulfill a need (see Figure 2). We have or we must have control over our activities. But we exercise far less control on the ultimate outcome: whether our needs would be fulfilled or not. This can be, despite efficient use of tools.

3.3. Activities Have Time, Place, and Other Constrains.

Activities are what we are actually doing. Therefore, our activities are limited or constrained by time and other resources. We may have the need to be present at Delhi and Bengaluru at the same time. But at a particular time, we can be present at one place only. If we are playing badminton, we cannot be reading at the same time. In the same vain, we may have the need to sleep (existence), share something for our spouse (relatedness), and learn a new software (growth)—however, we can carry out only one of these activities at a particular time.

3.4. The Activities-Circles: Pie Charts of Activities

As their quantity is limited, the activities can be represented by a pie-chart that can be named as activities-circle. Each activities-circle would have three pie slices representing—RR, GR, and AR activities. In standard pie charts the sizes of these slices would be exact, representing exact data. In the absence of exact data, and we do not need exact data, as our purpose would be served by dominance. I have conceptualized three types of activities-circles: R dominant (X), balanced (Y), and G&A dominant (Z). These are the quantitative views of our activities (Figure 3), which can be used to compare and categorize individuals according to their activities. In this manner, the groupings or classification of activities shown in Table 1 become relevant for our purpose. And a novel theory of activities based on this classification starts gaining significance.

Figure 3. Activities-circles showing quantitative views of our activities: RR activities (R), AR activities (A), and GR activities (G).

Figure 3 shows activities-circles (pie-charts) of three different individuals (X, Y, and Z), each having three pie slices—A (AR activities), G (GR activities), and R (RR activities). A casual view tells us that three groups of activities are equal in Y; RR activities are dominant in X, and GR and AR activities are dominant in Z. Overall view can be that X indulges in RR activities such as sleeping, watching television, using tobacco, worrying etc., while Z is more adjusted and growth oriented.

The arguments made in this paper may lead to several inferences such as: If they are having diabetes, Z will have more control over diabetes than X. If they are students, Z will be better in studies than X. In comparison to X, Z is less likely to suffer from diseases like angina (Agarwal, 2020c), obesity, asthma, backache, and depression—and Z will be better adjusted in family and society and at workplace. Also, Z will be happier and will not indulge in crime or in anti-social activities.

Different kinds of activities-circles (X, Y, and Z) can also be applied to an epoch in the history (Agarwal, 2020c), to a kingdom or an empire, or to a society or a nation. Z and X are two extremes, while Y is positioned somewhere in between. We will consider Y as normal, Z as better than normal, and X as worse than normal. I will come back to these concepts later in this paper, where these activities-circles would provide the groundwork for documenting the principles of ROASEI (see Section-Three).

Figure 4. Performance is sandwiched between activities and fulfillment of needs

3.5. Activities Have Quality

I have already pointed out that activities are tools, which can be used to fulfill our needs. In today's world we like to talk in terms of performance, which can be sandwiched between activities and needs, as shown in Figure-4. In order to improve my performance, I must switch over to better activities. Thus, activities have quality that will be reflected in performance.

Referring back to Figure 3, Z is likely to have better performance (and better fulfillment of needs) than X. Supposedly, activities of Z will have a better quality than X. Let us look at an example: A teenager smokes to improve focus on the studies, while another teenager meditates for the same purpose. Two activities (smoking and meditation) have different qualities. One of them may be more effective or efficient, but they are serving the same purpose. Thus, to improve performance we should go for more effective activities. But that is not always the case, as we often go for an avoidable activity. Our needs are the same, but the activities to gratify those needs have marked differences.

I must emphasize that smoking, meditation, and breathing exercise are essentially RR activities—and for most of us improving the quality of RR activities is more important, as compared to improving the quality of AR or GR activities. Especially important is to improve the quality of principal RR activity that has been discussed later in the paper (see paras 6.9 and 6.10).

Figure 5. Health compromising behaviors and psychological symptoms emerge due to frustration of growth and relatedness needs.

Alderfer's major propositions are reproduced later in this paper (see para 5). A need may be unfulfilled, and a frustrated need leads to regression that is: "if a higher-order need is frustrated, the next-lower-order need is activated" (Alderfer, 1969); see Alderfer's propositions P2 and P5. Moreover, in case of existence and relatedness needs, frustration leads to an increased desire of the same needs (propositions P1 and P4). These propositions are meaningful for us for understanding and for improving quality of the activities.

It was observed that depression/anxiety and stress predicted later unhealthy behaviors, but unhealthy behaviors did not predict later mental problems; therefore, it is suggested that "targeting mental health may be important to promoting improvements across multiple health behaviors" (Walsh, Senn, & Carey, 2013). From our perspective, feeling stress, anxious, or depressed means that existence needs are not being satisfied. This will lead to increased desire for existence needs (proposition P1). But an unhealthy behavior (such as tobacco use) by itself does not mean that existence needs are not being fulfilled; therefore, increased desire for existence needs is not expected merely because a person is a tobacco user. This means increased risk of health compromising behaviors amongst mentally chal-

lenged (as depicted in Figure-5) and not vice versa.

Partner's infidelity (indicating frustration of relatedness needs) has been linked with psychological symptoms and health compromising behaviors (Shrout & Weigel, 2018). This study also found that "women who reported negative appraisals and high levels of mental health consequences engaged in more health-compromising behaviors". From Alderfer's propositions (P2, P4, and P5), we can derive that their growth and relatedness needs are not getting satisfied. So, their existence needs have increased—leading to increased RR activities such as feeling anxious and depressed, and indulging in health compromising behaviors.

Figure 6 conceptualizes another model that unifies activities and needs and explains the central significance of improving the quality of activities. Poor quality activities lead to poor performance and lack of fulfillment of needs. Lack of fulfillment of needs activates lower order needs. Activation of lower order needs may lead to psychological symptoms and health compromising behaviors, which are poor quality activities. This completes a vicious circle. Only way to break this vicious circle is through improving the quality of activities.

Figure 6. A vicious circle, which may be responsible for persistence and aggravation of poor qualities of activities, health compromising behaviors, psychological symptoms, and frustration of needs. Only way to break this vicious circle is through improving the quality of activities.

3.6. Activities are socially and culturally determined

This is how Bond (2005) defined the culture:

A shared system of beliefs (what is true), values (what is important), expectations, especially about scripted behavioral sequences, and behavior meanings (what is implied by engaging in a given action) developed by a group over time to provide the requirements of communal life (food and water, protection against the elements, security, belonging, social appreciation, and the exercise of one's skills) in a particular geographical niche. This shared system enhances communication of meaning and co-ordination of actions among a culture's members by reducing uncertainty and anxiety through making its member's behavior predictable, understandable, acceptable and valuable. (p. 35)

We can briefly say that culture is a shared system of activities. People who share a culture think, feel, and behave in a culturally defined manner. Thus, culture has a strong impact on our activities. While needs do not vary according to the culture, but the manner by which we fulfil our needs is dependent on the culture that we share. A large number of Indians consume home cooked diet based on plant food and milk that totally excludes meat, egg and poultry (Mudambi & Rajagopal, 2007; Singh et al., 2014). In many European countries, particularly in Netherlands and Denmark, cycling as a means of commuting is becoming increasingly popular (Heinen, van Wee, & Maat, 2010; Martens, 2004).

Social factors influence our activities in more complex ways. During last fifty years, social disparities have gathered our attention. The influence of social factors on activities will be discussed in Section-Five, where the context would be that social disparities influence our activities and lead to health inequalities. A comprehensive discussion correlating our activities with social and cultural factors is beyond the scope of this paper.

3.7. Our Activities are Anti-Need on a Very Wide Scale

Our activities may or may not be directed by underlying needs. They may be more related to our wants (or immediate gratification). Most striking example of this could be a person, who wants to die and consumes a poison—while the need is to exist. This is the farthest extent that activities could be anti-need.

Then on a very wide scale also our activities seem to be anti-need. We are facing existential crisis, and we need to protect and preserve our environment. But our activities continue to damage our environments. Another common example would be feelings of anxiety and depression. Our need is to feel happy, but feelings of worry and depression

exist in normal people also. Our need is to remain healthy (existence need), but we often indulge in potentially health damaging behaviors. Our need is relatedness, but many of our activities lead to conflict, isolation, and disparity. We face so much hunger and poverty, but we waste food on a large scale. For example, in USA about one third of food is wasted at the consumer level (Schneeman & Oria, 2020). “We are a society of notoriously unhappy people: lonely, anxious, depressed, destructive, dependent-people who are glad when we have killed the time we are trying so hard to save.” (Fromm, 1997, pp. 4-5)

Anti-need activities may also be activities of inferior quality. However, anti-need activities and inferior-quality activities are different constructs. Anti-need activities go against fulfillment of our needs, so we should discard them completely. Attempting suicide is one example. On the other hand, inferior-quality activity means that a better option exists that should be adopted. An aircraft consumes large quantities of fossil fuel; therefore, from an environmental perspective air-travel may be an inferior quality activity, and we should prefer train journey whenever possible. But air travel cannot be considered anti-need. Similarly, we should prefer a bicycle whenever possible, but a car journey cannot be considered anti-need.

Theories of needs give us a sense of entitlement that every individual is entitled to fulfillment of her needs. But our activities continue to defeat the purpose of achieving needs on a very large scale. In this scenario, it is difficult to understand how the purpose of fulfillment of needs (particularly the higher order needs) can be achieved. A theory of activities would be better placed (or essential perhaps) to create insights that direct our activities on a larger scale towards actual fulfillment of needs. This particularly applies to higher order needs, as conceptualized by need theorists.

3.8. Activities Represent us Much Better Than Needs

Theories of needs were created to understand people on the basis of their deeper motives. Maslow (1943) wrote,

Such a theory should stress and center itself upon ultimate or basic goals rather than partial or superficial ones, upon ends rather than means to these ends. Such a stress would imply a more central place for unconscious than for conscious motivations.

So, Maslow had in his mind deeper motivation, and he clearly acknowledged the difference between motivation and behavior: “Motivation theory is not synonymous with behavior theory. The motivations are only one class of determinants of behavior. While behavior is almost always motivated, it is also almost always biologically, culturally and situationally determined as well.”

Thus, behavior is a wider concept than needs, and what we mean by our activities is much wider than our meaning of behavior. Therefore, activities (as we have conceptualized them) represent us much better than behaviors or needs. A theory of activities would give us a better idea of ourselves and in many ways serve our purpose better than the theories of needs.

4. Activities Underlie the Process of Change

The significance of wider activities (as processes of change) has been emphasized in the Transtheoretical model (TTM) of health behavior change: “Processes of change are the covert and overt *activities* that people use [emphasis added]” (Prochaska & Velicer, 1997).

TTM represents an ambitious attempt to draw together many different types of models, theories and behavior change techniques, and it has received unprecedented research attention. (Armitage, 2009)

The transtheoretical model uses a temporal dimension, the stages of change, to integrate processes and principles of change from different theories of intervention, hence the name transtheoretical. This model emerged from a comparative analysis of leading theories of psychotherapy and behavior change. The goal was a systematic integration of a field that had fragmented into more than 300 theories of psychotherapy.¹ The comparative analysis identified 10 distinct processes of change, such as consciousness raising from the Freudian tradition, contingency management from the Skinnerian tradition, and helping relationships from the Rogerian tradition. (Prochaska & Velicer, 1997)

4.1. Reorientation of Activities Versus Processes of Change

TTM envisages ten processes of change spread across six stages of change, and it emphasizes that during the course of changing their behavior, people use these processes of change in order to go through the envisaged stages of change (Prochaska, Velicer, DiClemente, & Fava, 1988; Prochaska & Velicer, 1997). Thus, TTM is a theoretical model of change, and the protagonists naturally expect that more effective behavior change interventions would be built around this model.

Ten processes of change (of TTM) are: Consciousness Raising, Dramatic Relief, Self-Reevaluation, Environmental Reevaluation, Self-Liberation, Social Liberation, Counterconditioning, Stimulus Control, Contingency Management, and Helping Relationships. Progress towards smoking cessation must involve a large number of changes across thinking, feelings, and behaviors, and forty core items are listed in this article by Prochaska and col-

leagues (1988). For example, removing things from home and workplace that remind one of smoking (Stimulus Control), and to engage in some other activity instead of smoking (Counterconditioning). In my opinion this is an exhaustive model, but at the same time this is an overkill. Because very large number of changes are required, just to quit smoking (a single behavior change). My argument is that if a person is capable of making multiple changes in her feelings, thinking, and behaviors that person probably requires no intervention for quitting. The problem is that people find it difficult (or they do not want) to make substantial changes in themselves.

The importance of relapse prevention is well known: It is easy to quit tobacco, but the difficulty is related to preventing the relapse. Current tobacco cessation measures are either ‘more’ or ‘less’ potent, but they are equally (in) effective in relapse prevention—we need to develop a “true blue” relapse prevention program, capable of creating organisms that are

fundamentally altered with respect to relapse proneness. In other words, a true relapse prevention treatment must somehow render the ex-smoker relatively impervious to the most typical instigators of smoking relapse. Relapse researchers have long understood this to be an important goal, but it remains unattained. (Piasecki, Fiore, McCarthy, & Baker, 2002)

For tobacco cessation purposes, Self-Liberation thus becomes the most important process of change, and Termination is the last and largely unattainable stage of TTM. Prochaska and colleagues (1997) echo exactly these thoughts:

Termination is the stage in which individuals have zero temptation and 100% self-efficacy. No matter whether they are depressed, anxious, bored, lonely, angry, or stressed, they are sure they will not return to their old unhealthy habit as a way of coping. It is as if they never acquired the habit in the first place. In a study of former smokers and alcoholics, we found that less than 20% of each group had reached the criteria of zero temptation and total self-efficacy.⁵ The criteria may be too strict, or it may be that this stage is an ideal goal for the majority of people. In other areas, like exercise, consistent condom use, and weight control, the realistic goal may be a lifetime of maintenance. Since termination may not be a practical reality for a majority of people, it has not been given as much emphasis in our research.

Thus, many authors share the same feelings that the organism needs to be fundamentally altered with respect to relapse proneness; a long-understood goal that remains unattained. In such situation, ROASEI seems to be paving the way for a deeper fundamental change.

Let us go back to Figure 3. A tobacco user would have dominance of RR activities (X) in the activities-circle. A

fundamental change would mean shift to dominance of GR and AR activities (Z). This fundamental change requires reorientation of activities that I am going to discuss later in this paper (see para 6.8). After that fundamental change the individual would be simply rendered impervious to tobacco relapse—as urge would be replaced by hatred for tobacco. In terms of processes of TTM, this is Self-Liberation. Thus Termination, the largely unattainable final objective or Stage of TTM could easily be the primary objectives of ROASEI.

I must reemphasize that ROASEI is a theoretical argument in favor of MACI. Quitting tobacco cold-turkey has always been required for all those, who want to adopt MACI, and a large majority of tobacco users are able to quit without difficulty during the early stages of MACI. Later in this paper, I am going to discuss principal RR activities, and tobacco use is an example of principal RR activity that needs to be altered by a better-quality principal RR activity (see paras 6.9 and 6.10). This is possible through reorientation of activities.

5. More Comparisons Between Activities and Needs

I will use two practical examples to compare the utility of activities and needs theories. ERG theory divides human needs into existence, relatedness, and growth categories. Alderfer (1969) has discussed seven major propositions, which deal with interchangeability of needs. When a need is fully satisfied or not satisfied fully, the following propositions come into effect.

- P1. The less existence needs are satisfied, the more they will be desired.
- P2. The less relatedness needs are satisfied, the more existence needs will be desired.
- P3. The more existence needs are satisfied, the more relatedness needs will be desired.
- P4. The less relatedness needs are satisfied, the more they will be desired.
- P5. The less growth needs are satisfied, the more relatedness needs will be desired.
- P6. The more relatedness needs are satisfied, the more growth needs will be desired.
- P7. The more growth needs are satisfied, the more they will be desired. (p. 148)

5.1. A Student Unable to Focus on Studies

Komal is finding it increasingly difficult to focus on studies. She has no friends, except virtual friends on Facebook and other social media, where she spends several hours daily, mostly with people whom she does not know

in real life—and she also spends a lot of her time in watching television and playing mobile games. She is gaining weight, but she finds it difficult to resist high energy foods rich in fats and simple sugars.

Let us invoke Alderfer's propositions. Komal's growth needs are not being met, so she is likely to desire more relatedness needs. She trying to fulfil that through social media, conversing with people whom she does not know in real life. But she continues to feel unloved, and her relatedness needs are also not satisfied, therefore she is likely to desire more existence needs. Predictably she is eating, sleeping, watching television, and playing mobile games. Alderfer's need theory is able to explain her behavior. But how shall we motivate her to focus on her studies?

We usually invoke ecological perspectives (McLeroy, Bibeau, Steckler, & Glanz, 1988), when faced with unsolvable situations. Perhaps the teachers should change their pedagogical approaches. Or the parents should spend more time with her to meet her relatedness needs. The policy makers should give more attention to our education. Some would want us to do away with the examination-based promotions. Psychiatrists would be inclined to call this depression. Others would start blaming the whole system, the rat-race to which we are subjecting our younger generation. In this age of electronic and social media, such voices immediately reach super-decibel ranges, whenever the news of a distressed student committing suicide catches our attention.

A theory of activities provides a simple and logical solution. Let us refer back to Figure 3. The activities-circle of Komal has dominance of RR activities (X). She needs to change her activities-circle to Z, which has dominance of GR and AR activities. This reorientation of activities (discussed in para 6.8) is going to be a strong and decisive move towards solving her problems.

5.2. People with Unlimited Desire for Consumption and 'Growth'

Alderfer's propositions (P3, P6, and P7) mean that fulfillment of existence, relatedness, and growth needs leads to increased desire for relatedness and growth needs. According to these propositions, growth needs can never be fully satisfied. Thus, people at the lowest level want to grow, and people at the highest level also want to grow equally or may be more. Since everybody cannot reach the same level, this is bound to lead to classes within the society. Industrial-revolution, despite its successes, has been the major engine that intensified these classes and class conflicts.

The passion for having must lead to never-ending class war. The pretense of the communists that their system will end class struggle by abolishing classes is fiction, for their system is based on the principle of unlimited consumption as the goal of living. As long as everybody wants to have more, there must

be formations of classes, there must be class war, and in global terms, there must be international war. Greed and peace preclude each other. (Fromm, 1997, p. 5)

Modern society creates a type of man whom Fromm (1997) has named the homo consumens—the consumer man whose main interest becomes, aside from working from nine to five, to consume. However, this endless consumption has not led to satisfaction. We can say that this level of consumption too is not fulfilling the growth needs, which are according to Alderfer’s propositions not satisfiable. It is this desire for growth that has fueled a consumption driven economy. “It is becoming increasingly accurate to speak in terms of the economic construction of reality, rather than the cultural construction of reality.” (Schumaker, 2001, p. 29)

Marsha Richins summarizes research showing that materialism is increasing at a rather sharp rate. For example, one study of high school seniors assessed the importance of having “at least two cars.” In 1976, 40 percent said that this was very important; by 1986, this percentage had risen to 63 percent.³⁰ This study found similar increases when students were asked about the importance of having the latest fashion in clothes, a top-of-the line stereo, a summer house, and so forth. A different study asked adults whether or not having “a lot of money” was one of the main things they wanted out of life. In 1975, 38 percent wanted a lot of money; by 1988 this had risen to 62 percent. This pattern explains in part why psychologists and psychiatrists are encountering an increasing number of patients who are best diagnosed as suffering from money fetishes. (Schumaker, 2001, p. 39)

Results from both correlational and experimental studies show that higher social class predicts a greater desire for wealth and status. These results also suggest that self-definition and self-categorization in terms of wealth and status are mechanisms that might explain this “having more—wanting more” phenomenon. (Wang, Jetten, & Steffens, 2020)

Thus, Alderfer’s propositions stand vindicated in modern industrial world, particularly the P7 that states: “The more growth needs are satisfied, the more they will be desired.” Most of us unfortunately look at wealth as an end product, but Amartya Sen a Nobel laureate economist wants to promote the idea of wealth as means.

Economics is not solely concerned with income and wealth but also with using these resources as means to significant ends, including the promotion and enjoyment of long and worthwhile lives. If, however, the economic success of a nation is judged only by income and by other traditional indicators of opulence and financial soundness, as it so often is, the important goal of well-being is missed. (Sen, 1993, p. 40)

This “having more—wanting more” phenomenon or the phenomenon of looking at wealth as an end product is explained by ROASEI using a different perspective. According to this perspective in our society most of the ‘rich and successful’ individuals have an activities-circle dominated by RR activities (Figure 3, X). They have wealth and status, but at the same time they are also suffering from stress, anxiety, and depression. They may be having unhealthy lifestyles, and they may be suffering from lifestyle related disorders such as obesity, cardiovascular disease, asthma, backache, and tobacco use. Most importantly, they need a vision that would make them capable of using their wealth to achieve significant ends. Thus, creation of more wealth may be a RR activity, and not a GR or AR activity. A graphical account of the tragedy that struck a busy lawyer and his subsequent transformation has been given by Sharma (1997) in his bestseller.

We may be looking for more and more wealth, but re-orientation of activities can lead to a deeper fundamental change. Thus, we become capable of using that wealth to achieve significant ends, as Sen (1993) has rationalized. When our activities-circle changes from X to Z (Figure-3), our anxiety, depression, and stress are also relieved. Simultaneously, our lifestyle improves, diseases go away, and wellbeing gathers momentum.

Section-Three: The Basics of ROASEI

ROASEI is a novel theory of activities that has emerged from a bottom-up intervention that has been termed MACI. In this section, I am going to build the theory by discussing its defining principles.

6. Some Defining principles of a novel theory of activities:

I have already created the groundwork by introducing the activities-circles (para 3.4) and three kinds of activities: called RR, AR, and GR activities (para 2). While defining the principles, I will be just scratching the surface, without going into an academic debate. Thus, I will be relying more on logic, common sense, and insights to state these principles.

6.1. To Allow one Kind of Activity to Grow, the Other Kind is to be Sacrificed

In para 1.1.2, I gave the examples of a farmer, a shopkeeper, and a manager. A farmer is concerned with weeds. A shopkeeper is concerned with limited shelf space. A manager is concerned with limited budget for giving salaries to the employees. In a similar manner, we have ac-

tivities. We need to weed out activities that are harmful and even those that are useless. Otherwise useful activities shall not flourish, simply because there shall not be enough resources left with the individual. So, we come to the first important principle of ROASEI that we need to sacrifice an activity to allow some other activity to grow. Most of the time, we want to sacrifice RR activities to allow growth of AR or GR activities. For example, to devote more time to the studies that is GR activity, a teenager should reduce television viewing time that is an RR activity.

6.2. Activities-Circle Cannot Have an Empty Space

When we have sacrificed (or want to sacrifice) one activity, we should promote another to grow. Activities-circle cannot have empty space, as emphasized in Figure 7. This principle is similar to but much wider (see para 6.8) than Counterconditioning, a process of change in TTM (see para 4.1). Cigarette smoking is a RR activity. When an individual quits tobacco use, a potential empty space (E) is created in the activities circle. For a person to be successful in quitting, this space needs to be filled (by default or by intent) by other activities. The default is RR activities (R). If they are considered unsuitable, AR activities (A) or GR activities (G) should be allowed to expand.

6.3. In Major Depression, the Activities-Circle Might Look Like This.

Depression indicates low mood or sadness. It means feeling hopeless and helpless, guilt, low self-esteem, irritability,

Figure 7. Activities-circle cannot have an empty space (E).

ty, lack of pleasure in ordinary activities, suicidal thoughts and attempts. Physical symptoms include low energy or weakness, aches and pains, sleepiness and insomnia, changes in weight and appetite. Depressed people avoid social activities and social contacts, and perform poorly in studies or at workplace. A diagnosis of major depressive illness requires that the above symptoms are continuously present for at least two weeks.

How will the activities circle of an individual suffering from major depression look like? The main symptom of depression is low mood. We have all experienced low mood, and we try to restore it. Those who are clinically depressed need more such restoration. Their RR activities may be ineffective, because they do not derive pleasure in ordinary activities. Their sleep may be excessive or disturbed, and they may have day time sleepiness. Low energy or weakness, aches and pains, and other physical symptoms of depression also result in bloated RR activities—leading to constriction of GR and AR activities (Figure 8). Lack pleasure from their work or studies and from human interactions shall also lead to constriction of growth and adjustment.

6.4. Activities-Circle of Maniac Phase of Bipolar Disorder

Symptoms of mania are somewhat opposite to those of major depression.

Manic states are typically characterized by heightened mood, more and faster speech, quicker thought, brisker physical and mental activity levels, greater energy (with a corresponding decreased

Figure 8. Activities circle in major depressive disorder.

need for sleep), irritability, perceptual acuity, paranoia, heightened sexuality, and impulsivity. ... In more intense episodes, however, they profoundly disrupt the lives of patients, their families, and society. (Frederick & Kay, 2007, p. 32)

Despite dramatically different clinical picture, the activities circle of mania in general would closely resemble depression. This is because of disruptive nature of these activities. Mania may be more disruptive than depression and may need a greater restoration. In general manic activities cannot be categorized as adjustment or growth related; so, we eventually come to an activities circle with bloated RR activities.

Mania and depression have similar activities circles; so, they are qualitatively similar. These insights are likely to have important implications for the understanding of depressive disorders and for devising effective treatment strategies for them.

6.5. A Different Activities-Circle?

I have already classified people according to their activities-circles, some better and others worse than normal (see para 3.4). A better than normal activities circle, having dominance of AR and GR activities, is shown in Figure 9. It belongs to somebody highly adjustable, maybe somebody who is building a financial empire from a scratch through sheer hard work and unwavering commitment. If I have to give a real-life example, among others I can also think of workaholic Narendra Modi, a vegetarian with frugal life-style. According to him, he sleeps only 3-4 hours, yet he is energetic throughout the day (I sleep very less, 2012). And the “menu for Indian Prime Minister’s private dinner at the White House Monday night (2014 Sep 29) was a simple one: warm water” (Nelson, 2014).

6.6. A Dynamic Balance of Activities

According to the principle of balance of activities, three categories (AR, GR, and RR) of activities are in a dynamic balance, as they are pulling all the individuals from three different directions for having a greater share of their inherently limited resources (Figure 10). This triangular tug

Figure 9. A better than normal activities-circle.

Figure 10. Three kinds of activities vie for limited resources of the individual. The resulting tug-of-war is inherently unstable.

of war that may also be termed as conflict of activities makes this balance of activities inherently unstable. Instability has the potential to lead to imbalances of activities and such imbalances typically lead to symptoms, stress, diseases, and poor performances.

Many simple examples of such imbalance can be given. A diabetic or obese person may have a perpetual conflict between limiting calory intake (AR activity) and consuming tasty food (RR activity). A student may have a conflict between studying (GR activity) and watching television or having goodtime with friends (RR activities). These simple examples can help the individuals to understand the mechanisms responsible for their problems in terms of their own activities. This sets the stage for finding solutions for changing their own activities. Such Loss of Harmony or Imbalance of Activities

Loss of control or imbalance of activities may lead to unwanted, unexpected, and relatively rapid changes in activities-circle of an individual. For example, COVID-19 pandemic led to sudden and massive disruption of normal activities, as billions were confined to their homes. On a lesser scale though, the same can happen due to illness, accident, or a limited natural calamity. We can also expect this due to failure, unemployment, loss, or conflict. Indiscrete behaviors such as drugs and alcohol consumption, crime, domestic violence, and social or political unrest can also result in changes in activities-circle, with short or longer-term shifts occurring towards left (Figure 11, X), and resulting in dominance of RR activities.

6.7. Reorientation of Activities:

Let us go back to Figure 10. Here the individual is at the center, who is not a passive watcher allowing the activities to tug at resources. So, every individual is supposed to exercise reasonable degree of control—and in order to fulfil her needs, a normal (and even an abnormal) person would continuously manipulate the activities, with innumerable strategies, both intuitive and formal. These strategies can be collectively called reorientation of activities. Such reorientation can be reversible, minor, short-term, or routine that we carry out during the course of the day or for a short period of time. During exam time the activities of a student shall be centered on the forthcoming examinations (GR activities). Immediately after the examinations the same student is likely to go for enjoyment and fun (RR activities). This dynamic balance reflects the perpetual prioritization of the activities according to approaching needs. For example, a woman after her marriage may be devoting a lot of time to improve her personal appearance. But a childbirth she may become totally devoted to her newborn.

Longer term or major reorientation may also be in response to imbalance of activities (Figure 11). For example, chronic cough may force a person to stop smoking, and detection of diabetes may influence dietary changes. An individual who develops heart disease will do both: stop smoking and change the dietary habits. Interventions, targeting these activities, are also meant to effectively reorient the activities of the individual. Thus, reorientations will also occur with a longer-term perspective to deal with future and immediate threats related to loss of control and imbalance of activities. But such longer-term reorientation of activities may fail in its purpose and the imbalance of activities may persist or worsen.

6.8. The Principal Reorientation Related activities

We are tired in the evenings, then we sleep every night and start working every morning. Thus, sleep helps us in reorientation of activities—and it may be termed central reorientation related activity for all of us. Eating may also be a central reorientation related activity. But when I am talking about the principal reorientation related (PRR) activity, I mean something more peripheral and optional—such as smoking, sexual activity, and even overconsumption, which are common PRR activities. As the name also suggests, these are typically RR (and not GR or AR) activities.

To understand PRR activities, let us look at a contextual example: After day's work, a man returns home. His wife is busy with an infant, who is crying. The man becomes extremely agitated. After that only, he is told the truth that the child is having fever. He feels uneasy and guilty, lights a cigarette, and forgets the incidence. His anger is gone, but next time, when he encounters an irritant, he is likely to behave in the same manner. Here tobacco consumption is a PRR activity that allows him to get over his anger, irritation, and feelings of guilt (reorientation).

Think of an author, who writes for a living. In this case, writing is GR and AR activity. But when a particular writing episode is undertaken to suppress anger or other negative feelings, writing becomes RR activity. When writing episodes are frequently undertaken to control anger or negative emotions, writing becomes a PRR activity.

Look at another example: An alcoholic having no fixed source of income lives in a slum. The wife is working as a housemaid. Her earning is regular and decent. One evening she refuses to give him money for his booze, so he becomes extremely violent and beats her. Thereafter he goes out, consumes alcohol, and starts behaving normally. Here alcohol consumption is a PRR activity, because without it the façade of normalcy cannot be maintained.

Schumaker (2001) tracks the relation between modern consumerism and mental health. His main argument is

Figure 11. Longer-term or major reorientation of activities can be our response to imbalanced activities. Shorter-term or minor reorientation can be in either direction. These activities-circles (X, Y, and Z) can also be used as identification tools.

that consumerism has replaced (or is replacing) all other dimensions of human activities, including work, leisure, nature, and culture itself (p. 30-31). He argues: “Endless consumable objects and services of every description make tasks more convenient, while creating the potential to enjoy free time. Frequently, the time that is liberated by our many time-saving offerings is used for additional money earning.” Such consumerism and materialism are not a growth or adjustment related activity. It doesn’t lead to personal growth, skills, or character development. Whenever we are bored, depressed, or empty—and that is quite frequent—we go out, fill ourselves with food, entertainment, and physical goods, and feel happy about it. So, materialism and consumerism are essentially RR or PRR activities. See more in paras 5.2, 12.2.2, and 12.2.3.

Equally relevant to us are the activities of a terrorist, who must switch (reorient) to a life of harshness and violence. This reorientation to terror related activities happens through indoctrination. A terrorist lacks growth. Moreover, a terrorist is adjusted to an ideology and not adjusted to the world. A large part of his activities is related to saving his life—that is restoration. Thus, a terrorist has an activities-circle dominated by RR activities (Figure 11 X), and indoctrination into terrorism is a PRR activity, through which a normal educated person can be converted to a terrorist. Such indoctrination is a continuous process, and it may be highly difficult to reorient such a person away from the dogma of terror.

6.9. The Value of PRR Activities

Reorientation of activities and PRR activities have been discussed above. Now, I am going to examine the interrelationships between the two. It seems that based on prior experience every individual becomes used to a particular set of PRR activities for reorientation of activities. We can take the example of a person, who starts smoking—and discovers steadiness, ability to adjust to the unpleasant reality, and ability to remain focused on the task. Thus, smoking becomes a PRR activity. Writing and even terrorism can become PRR activity, as the examples in the above para show. Author must focus on writing, and diversion from other issues simply occurs because of the extreme focus. Continuous and prolonged indoctrination makes a person to find actual relief in the dogma of terror. After that a person becomes ready to leave the comforts of ordinary life, adjusts to a much harder life, and learns the necessary skills for the operations.

Another assumption that I am making is that all PRR activities have quality. They may be perceived as a ‘good’ and ‘desirable’, whenever they seem to (or actually) help in modifying the activities circle in the desired direction (Figure 11). This is how activities like tobacco use are positively reinforced. These activities often divert the attention of the individual from symptoms, real issues in life, and other problems. Nevertheless, in real life some

of these PRR activities may become unwanted. But howsoever unwanted they may be, they remain difficult to eliminate. A good PRR activity is also a RR activity, but it leads to effective reorientation of activities, and so it shifts the activities-circle towards the right, promoting GR and AR activities (Figure 11). Thus, a good PRR activity such as meditation or breathing exercise should essentially be self-eliminating. Smoking and indoctrination into terrorism are not good PRR activities, as they do not shift the activities circle to the right—and they are not self-eliminating. For details about quality of activities, revisit para 3.5.

6.10. Activities-Circle as an Identification Tool

The act of characterizing people by their activity circle may seem theoretical or arbitrary, but it has enormous practical significance for people to get insights into their problems. I have shown different activities circles to people and asked them to identify, to which one (in Figure 11) their life resembled? And I found their responses to be very largely correct.

In Figure 11, we can easily predict longevity and health for Z in comparison to X. The details are given in paras 3.4 and 3.5. So, X needs help, even though no risk factors may be present. We come to a practical question. Can we help X and how? And to what extent? Activities-circles can become a simple tool for ordinary person to know: whether or not an individual is going to have longer and healthier life? Whether a change is required? And what change is required? Activities circles are able to provide such insights to most individuals.

6.11. Selective Consolidation of Activities:

After reorientation of activities comes selective consolidation of activities. Effective reorientation of activities means a shift to the right (Figure 11, Z), which means contraction of RR activities and more space for GR and AR activities. When there is more space for GR and AR activities is available, we must select some such activities and try to consolidate them. For example, a diabetic will try to consolidate regular physical activity and healthy dietary patterns.

But selective consolidation of activities does not end there, as it is a continuous process of selecting and consolidating activities to arrive at new patterns of need gratification. During this step the individual reaches out for self-determined goals. If health is the goal the health promoting activities can be selectively taken up for consolidation. If improved relationships are the goal interpersonal skills can be developed and sharpened. The pace and direction of consolidation is to be determined by the Individual. The process of selective consolidation of activities should continue with the ultimate aim of self-envi-

ronment integration. This becomes possible, because good PRR activities are self-eliminating (see para 6.10)

7. ROASEI as a Tool of Self-Environment Integration

We try to achieve our stability. Integration means that we go beyond ourselves and start looking for greater stability, as stability of our multiple environments is in our interest (Figure 12). We understand the value of such integration, and over a period of time selective consolidation of activities will allow us to integrate more and more with our environment leading to self-environment integration. This includes but is not confined to development of relationships with family, friends, co-workers and others; cultural integration with one or even more cultures; biological integration that is adjusting to physiological or pathological conditions that one may be having; and also, integration with physical environment for environmental protection.

We are often living in a maladjusted society, where a majority is adjusted to maladjustment. Factors responsible for social and health disparities seem firmly entrenched in our ecosystem. We are hardly ignorant of sycophancy being taught in primary classes and in homes, organized crime, arms race, institutionalized corruption, countries involved in terrorism, drug mafias, dishonest policing and bureaucracy, stock market cartels, unethical nexuses between politicians, businessmen, and the criminals. So, when I am talking about self-environment integration, I am talking about a new normal. I am talking about a qualitatively better adjustment that means adjustment for the actual needs of the society and the environment. For that we need many more qualitatively better adjusted individuals, who will have the courage to challenge the current ecosystem.

This may seem idealistic or a political philosophy. I must hastily add that ROASEI is primarily concerned with understanding and explaining individuals on the basis of their activities—and ROASIE is not a theory of character building or indoctrination of values. Interventions based on ROASIE would be concerned with health and happiness of the individual, or concerned with a better adjusted individual—ensuring a lot more autonomy to the individual.

How will ROASEI based interventions ensure more autonomy and better adjustment for the individual and result in enhancement of health and happiness? How will they ensure a better social system? We must be skeptical, but the key is promotion and adoption of better PRR activities. As explained above, smoking is a PRR activity. Yoga is also a PRR activity. Yoga's potential for helping people in quitting tobacco and other addictions (Dai & Sharma, 2014; Elibero, Janse Van Rensburg, & Drobos, 2011; Khan-

na & Greeson, 2013) and promotion of psychosocial health (Khalsa, Hickey-Schultz, Cohen, Steiner, & Cope, 2012; Noggle, Steiner, Minami, & Khalsa, 2012) is being increasingly recognized. Substantial improvements are likely to a society that shifts the PRR activities from tobacco use to Yoga. We can rephrase this to: substantial improvements are likely to a society that shifts to better PRR activities. The hypothesis is that with the help of better and better ROASEI based interventions this shift to better PRR activities can go on and on, and society would continue to improve. Some breaks need to be applied to the unlimited quest for wealth and power that are also PRR activities (see paras 5.2 and 12.2.2).

Continuous shift to better PRR activities may not be an easy task for all. But my expectation is: out of the many, some are likely to end up becoming qualitatively highly adjusted individuals, who will have the courage to challenge the norms. And it is expected that such autonomous individuals will feel the power within to grow into leaders, who would take up the challenge of creating a new normal in the society.

8. The Basic Principle of Manipulating Activities-Circle

Simple and effective principles of manipulating the activities circle during ROASEI based interventions have been explained in Figure 13. The aim is to reduce RR activities and replace them with AR and GR activities. That

Figure 12. Self-environment integration means integration across multiple environments.

aim is achieved through better PRR activities, which are self-eliminating, as explained in the paras 6.10, 6.11, 6.12, and 7.

Reducing fluctuations can be expected to improve stability (see wavy lines A, B, and C in Figure-13). This may seem an ultimate mechanism for reorientation of activities; however, better RR (or PRR) activities should as a rule reduce fluctuations. So, Figure 13 explains the mechanism: how better RR activities lead to improvement.

As I have said in the Introduction (see para 1), these principles have been derived from MACI, an intervention that was effectively applied to people across diverse socio-economic, educational, and cultural backgrounds. Because of the simplicity of these principles, it is assumed that they can be applied by everybody including volunteers, school teachers, and health workers. That we may have in our hands an effective social intervention. And despite impossible looking odds, MACI as a social tool can become a vehicle for changing the mental health narrative and practice (Agarwal, 2020a).

Section-four: Activities Versus Personality

ROASEI is a novel theory of activities. In this section, this theory would be developed further, mainly by comparing it with the theories of personality. The ROASEI has parallels with Big-Two and Biggest-One of Five-Factor framework. ROASEI will be compared with reversal theory. Finally, personality “enhancement” with prescription

drugs will be analyzed in the perspective of ROASEI.

9. Activities Versus Personality

It is difficult to define personality, but “two major themes have pervaded nearly all efforts at grand personality theorizing: human nature and individual differences” (Buss, 2008). The efforts to explain personality are more than a century old, while this is for the first time that I am proposing a general theory of activities. In Section-Two, I have already compared ROASEI with theories of needs. Activities are proximal to us, while needs are distal. In a similar manner personality may be considered a structure imposed on activities. We try to determine personality on the basis of activities—or on the basis of some of the activities. Moreover, divergent personalities have similar activities with quantitative differences. This makes activities a much broader concept in comparison to personality. Changes in activities can occur far more swiftly and over vast geographies than changes in personality. Some of us may think that personality influences our activities. They are placing personality at the center. However, I consider activities at the center, and personality only as an offshoot of activities. Activities would, therefore, determine our personality and not vice-versa. We can, however, use the concept of personality to understand, predict, or explain activities. Evidently, changing a few activities can bring about significant changes in personality.

Figure 13. ROASEI based interventions such as multiple activities change intervention effectively change the activities-circle by reducing the fluctuations in a person's life and thereby making her more stable. Wavy lines A, B, & C represent the degree of fluctuations. Horizontal arrows point towards the corresponding activities circle. For example, when the fluctuations are widest, the RR activities would be dominant—because wider fluctuations (A) mean more restorative efforts (longest thin vertical arrows) are required to reach the baseline (horizontal arrows). A simple way to reduce the degree of restorative effort would be to reduce the fluctuations and to enhance stability. Expectedly this would lead to dominance of AR and GR activities. When the opposite occurs, and fluctuations become wider—more restorative efforts would be required and an opposite move can be expected.

Vast changes that occurred during COVID-19 crisis were due to changes in activities—and not due to changes in personality. Wide ranging changes in activities of people in eighteenth century England occurred due to industrial and agricultural revolutions. Increased consumption of animal food, coffee, tobacco, and simple sugar, reduced physical activity, and a more stressful life—these were the changes that supposedly led to origin of angina (Agarwal, 2020c; Michaels, 2001). Our activities are continuously changing and the rate of change has progressively increased with technological, scientific, and industrial progress. The same cannot be said about our personality that remains relatively fixed. Thus, activities are much more dynamic and flexible. Consequently, it must be far easier to bring about changes in activities than trying to change personality. Therefore, we need to give more attention to activities in comparison to personality.

10. Five Factor Theory of Personality

In the broadest sense personality includes human nature and individual differences. Here I will focus on personality theories emphasizing individual differences that are sometimes called trait theories of personality.

Traits are consistent patterns of behaviour. More precisely, traits are behaviours that tend to be consistent across situations and across time, and hence provide a reliable and consistent way of describing differences between people. Personality traits were developed to predict these consistent differences in behaviour. (Hyland, 2011, p. 71)

For nearly a century, personality psychologists have been striving to build a comprehensive model of personality traits. Gradually, they have conceived a hierarchical model, sometimes called Five-Factor framework (FF framework), in which correlated lower level traits are grouped together within broader higher-level traits, as shown in Figure 14. The Big Five occupies a special place in this framework:

According to the five-factor theory, there are five orthogonal (i.e., uncorrelated) dimensions of personality, namely neuroticism versus stability, extraversion versus introversion, conscientiousness, agreeableness and openness to new experiences. According to this theory, all (or almost all) variation in trait behaviour can be understood in terms of these five dimensions – which are commonly referred to as the Big Five. (Hyland, 2011, pp. 71-2)

The Big Five was first to be conceptualized. Later investigators searching for a higher-order level could arrive at the existence of Big Two (DeYoung, 2006; Digman, 1997). They found that Neuroticism, Agreeableness, and Conscientiousness together can be represented by one single personality factor labeled as Stability—and Extraversion and Openness can be represented by the second factor labeled as Plasticity. The Big Two are placed just above Big Five in

the hierarchy (Figure 14).

The existence of the Big Two means that at a higher level, people can be characterized by presence or absence of Stability and Plasticity. Stability and Plasticity have been found to address

two fundamental human concerns: (a) the need to maintain a stable organization of psychosocial function and (b) the need to explore and incorporate novel information into that organization, as the state of the individual changes both internally (developmentally) and externally (environmentally). (DeYoung, 2006)

After Big Two, the next search was for a highest order level or the Big One. That led to the discovery of a single General factor of personality at the top of the FF framework (Muek, 2007). Thus, personality structure defined by FF framework comprises three higher levels: The Big Five, the Big Two, and the Biggest One. The entire structure of personality should be completed by adding lower levels of hierarchy (Big Five facets, Items, and Specific Responses) as displayed in Figure 14.

In terms of Big Five, Big One is the combination of high versus low Emotional Stability, Conscientiousness, Agreeableness, Extraversion, and Openness. It represents emotionally stable, agreeable, conscientious, extraverted and intellectually open individuals versus neurotic, disagreeable, careless, introverted, and close-minded persons. In terms of the Big Two, the Big One could be characterized as the combination of high versus low Stability and Plasticity. (Muek, 2007)

The Big One [General factor of personality]

The Big Two [Stability and plasticity]

The Big Five [Neuroticism versus stability, extraversion versus introversion, conscientiousness, agreeableness and openness to new experiences]

The lower levels [Termed Facets, Items, and Specific emotional and behavioral responses]

Figure 14. The hierarchical structure (levels) of personality factors within the Five-Factor framework.

Hyland (2011) argues that those high in the general factor (plastic and stable) are more regulated than those low in the factor. “A network is dysregulated if it fails to exhibit stability and plasticity, and so the general factor of personality can be characterised as a factor of well-regulation–dysregulation” (Hyland, 2011, p. 95). He uses this argument for emphasizing the parallels between the Biggest One of the FF framework and well-regulation–dysregulation of his general infor-net theory. Later in this article (see para 12.1), I will be using the same argument (of Hyland) for characterizing the parallels between the General factor of personality (the Biggest One of the FF framework) and reorientation or dynamic balance of activities in ROASEI (see Figure 15).

11. Links Between Personality and Disease

The personality–disease relationship provides a description as to how some people are more prone to disease(s) than others. Hyland divides the personality–disease relationship research into two categories:

First, there is research that takes as its starting point existing personality constructs and dimensions. This research examines to what extent constructs that were developed for some other purpose (typically to predict other behaviours) correlate with health or disease states. This programme of research is conducted primarily by psychologists and in many cases health and disease are treated as part of a unidimensional construct (i.e., health versus disease). At least for some of this research, researchers are unconcerned with whether particular types of personality are linked to particular types of disease. Second, there is research that takes as its starting point the development of new personality constructs that are specifically linked to particular

types of disease (e.g., heart disease versus cancer). This second type of research was started by medical researchers and continued by psychologists, and there is an assumption of specificity between disease and personality type– or state of mind. Over time these two research traditions have tended to merge. (Hyland, 2011, pp. 70-71)

My focus in this discussion will be mainly on a general relationship between health and personality or activities that is the first category of Hyland.

11.1. Five Factor Framework and Disease

The FF framework has been briefly discussed above. Hyland has reviewed the relation between trait dimensions and health (Hyland, 2011, pp. 70-112). At the Big Five level, Neuroticism and Extraversion are considered particularly important from the perspective of the personality–disease relationship. The mental representation of Neuroticism consists of negative mood states—such as depression, anxiety as well as negative emotional states, such as hostility, guilt and fear. Mood is a signal of the internal state of the body whereas emotions are our responses to the external environment. Extraversion is equivalent to trait positive affect. That positive affect includes emotions such as excited, proud, inspired and alert. Whereas excessive negative affect can be considered a health problem, it is not common to consider lack of positive affect a health problem. If a person complains of depression, then clinicians will recommend treatment. If a person complains about lack of joy – but without depression – then they are unlikely to be recommended treatment.

The evidence in favor of personality–disease relationship comes from the studies involving factors belonging to the lowest level of FF framework. For example, research has

Figure 15. Activities are stacked between biological control systems and personality. Strong parallels exist between ROASEI and trait theories of personality (big two and big one). Infor-net well-regulation–dysregulation (Hyland, 2011) exists at a level higher than dynamic balance of activities, which is on the same level as General factor of personality.

discovered strong links between positive (such as joy/happiness, interest/curiosity, and pride) and negative (such as fear, anger, sadness, guilt, embarrassment, and disgust) discrete emotions and health outcomes (Consedine & Moskowitz, 2007). Negative mood states and emotions tend to occur together, and Neuroticism can be considered a combination of these correlated negative mood states and emotions. Similarly, positive mood states and emotions also tend to occur together that is Extraversion at the Big Five level. Thus, traits (Neuroticism and Extraversion) at the Big Five level have links with health outcomes. (Hyland, 2011, pp. 72-74)

However, the meaning of neuroticism and its relationship with health may vary depending on the context. For example,

higher neuroticism can mean having elevated scores on all items, elevated scores mainly on items related to anxiety and tension, or elevated scores mainly on items related to worry and vulnerability. ... people in the first group are at greater risk for poorer mental and physical health but that people in the latter two groups, especially those beset by worry and feelings of vulnerability, have better physical health. (Weiss & Deary, 2020)

Ability to differentiate between complex negative emotions such as anger and fear is called negative emotion differentiation.

For individuals low on neuroticism, negative emotion differentiation is a beneficial regulatory capacity that has substantial positive associations with later health outcomes. However, these health benefits did not generalize to individuals higher on neuroticism, suggesting that there are limits to the regulatory benefits afforded by negative emotion differentiation. (Oh & Tong, 2020)

There is also evidence that traits are not static, and positively directed changes in traits are associated with positive health outcomes. (Bleidorn et al., 2020; Oltmanns, Jackson, & Oltmanns, 2020; Turiano et al., 2011)

Thus, the relationship between personality traits and health outcomes is a complex one. From our perspective, the most important property is that the traits are changeable. Mere identification of the trait may not be enough, as the lower-level components (Facets and Items) and the strength of a Big Five trait have been found to have important bearings on health outcomes. A direct relationship between Big Two or Biggest One factors and health outcomes is expected but not explicitly proven at present, and the same is likely to be a complicated one. These factors limit the practical utility of using conventional FF framework for improving health outcomes in a larger population.

11.2. Disease Prone and Self-Healing Personalities

Friedman (2007, 2008) used these constructs to argue that similar set of personality factors were responsible for wide variety of disease conditions. These constructs have already been discussed in para 1.1.3.

12. Personality as an Offshoot of Activities

I have proposed a Four-Step pathway of disease causation and reversal (see para 14 and Figure 18). That model has been reproduced in a simpler form in Figure 16. This pathway envisages social, educational, economic and other general factors at bottom. Activities are at the next step. Third step is controlling systems of the body comprising of brain, endocrine, and immune systems. The last step is diseases of the individual organs and systems. These steps interact in a composite manner leading to disease causation and disease reversal. Activities occupy a central and all-important place in this model. Yet this is the first general theory of activities that I am proposing. It is possible that we have tried to cover this deficiency by innumerable theories of personality. These personality theories have served a purpose and advanced our knowledge, but a theory of activities should be considered a welcome addition.

I am proposing here that personality is an offshoot of activities—and activities are wedged between environment or biological control systems and personality (see Figure 16). We can say that in all likelihood biological control systems or environmental factors are able to influence personality on account of their influence on activities.

12.1. Parallels Exist Between Five-Factor Framework and ROASEI

Figure 16. Personality is an offshoot of activities.

Parallels are expected between activities and personality, if my proposal is true that personality is an offshoot of activities, or personality is a higher-level structure that we are trying to superimpose on activities.

The existence of these parallels between ROASEI and higher (Big One and Big Two) levels of FF framework will be examined here (see Figure 17). Let us first come to Stability and Plasticity of the Big Two level. Stability means a stable organization of psychosocial function, and Plasticity addresses the need to explore and incorporate novel information into that organization in continuously changing internal and external environments. Now from the perspective of activities (as discussed in para 2), we have three groups of activities: RR activities that are concerned with restoration (or Stability), and AR and GR activities concerned with adjustment and growth (or Plasticity). Thus, a close similarity seems to exist between ROASEI and the Big Two level of FF framework.

Let us come to the Biggest One or General factor of personality in FF framework (see Figure 14). An argument has been made that This Biggest One has parallels to dynamic balance or reorientation of activities in ROASEI framework—and well-regulation-dysregulation in infor-net framework of Hyland (see para 10). Here I will further that argument. In terms of Big Five, the Big One has been described as the combination of high versus low Emotional Stability, Conscientiousness, Agreeableness, Extraversion, and Openness. Thus, on one end are emotionally stable, agreeable, conscientious, extraverted and intellectually open individuals—and on the other extreme are neurotic, disagreeable, careless, introverted, and close-minded persons. In terms of the Big Two, the Big One could be characterized as the combination of high versus low Stability and Plasticity (Musek, 2007). Thus, at the highest levels FF framework has two opposite and relatively static traits.

Unlike relatively static traits of Five-Factor framework, ROASEI framework has two dynamic or interchangeable positions represented by two activities-circles X and Z (Figure 17, A). Positive traits (high Stability and Plasticity) are similar to Z (dominance of AR and GR activities), and negative traits (low Stability and Plasticity) are similar to X (dominance of RR activities).

Imbalance of activities versus reorientation of activities, these dynamic forces work at the top (Figure 17, A) to help us in controlling our activities (see paras 6.7 and 6.8) in a manner parallel to General factor that determines personality at the highest level. While imbalance is expected to reduce stability and plasticity, reorientation should be expected to improve stability and plasticity. Thus, imbalance of activities and reorientation of activities are opposite forces perched at the highest level in the control system of our activities.

Figure 17 A, shows three types of activities-circles X, Y,

and Z. Type of the circle is decided by the dominant group of activities. RR activities have dominance in X (low stability and low plasticity), while AR and GR activities have dominance in Z (high stability and high plasticity). In Y (average stability and average plasticity) RR, AR, and GR activities are equally distributed. Two questions that need immediate answers are: why should X be low in stability despite dominant RR activities? And why should Z be high in stability despite modest RR activities? To understand this phenomenon, let us take a few examples. Major depression is characterized by low stability and low plasticity, yet RR activities are dominant in such illness (see paras 6.3 and 6.4). On the other extreme, better than normal individuals (see para 6.5) have high stability and high plasticity, yet their RR activities are very modest. We must remember that activities-circles are only a quantitative representation of activities. Thus, RR activities in X must be quantitatively dominant but qualitatively inferior and the same in Z are quantitatively less but qualitatively superior. This opens up the possibility of improving the quality of our activities to fulfill our needs (see para 3.5). In terms of activities-circle, this means reorientation of activities for moving towards Z from X (see Figure 17 A).

A large majority of individuals belongs to X and Y categories, so their RR activities have the space for qualitative improvement. This increases the significance of this shift or reorientation of activities. In case of Big Two also, the weight is tilted towards Stability, but a tilt towards Plasticity is possible (Musek, 2007). But ROASEI perspective is very different, and high stability and high plasticity will go together (see para 12.2.3).

12.2. Comparing Stability Perspectives: FF Framework, Reversal Theory and ROASEI

Apter (2006) through his reversal theory tries to challenge some important assumptions of FF framework.

In particular, the theory regards the assumption that personality can be understood simply as a collection of static traits as too rigid to capture the essence of personality or account for the changeability of human nature. Instead, reversal theory argues that we are more complex, dynamic, and interesting than we are given credit for in trait approaches. (Apter, 2006, p. xii)

Reversal theory proposes that that we switch or reverse between four pairs of opposite motivational states (Telic/ Paratelic, Conformist/ Negativistic, Mastery/ Sympathy, and Autic/ Alloic). Imagine a student, who after several hours of studying (Telic state), may go and play football for fun (Paratelic state). Opposite occurs when a person watching a movie on television (Paratelic state) suddenly finds that her wife is sick and goes into Telic state. A mentally sound person can easily manage such switches or reversals, which are necessary for everyday life. Let us say that ease of managing such reversals is the essence of

a comfortable normal existence. But think of an anxiety ridden person, who for an extended period remains in Telic state without much respite. The opposite occurs when a maniac lives only in a Paratelic state for his own and for others' detriments. Thus, Apter has been able to explain mental disorders in terms of abnormalities in switching between two states. He called such abnormalities reversal inhibition and adoption of inappropriate reversal strategies—that means either switching between modes is suppressed or the strategies adopted for switching are inappropriate. (Apter, 2006, pp. 165-188)

12.2.1. *ROASEI as a Meeting Point of Trait Approaches and Reversal Theory*

Here I am trying to position ROASEI as a meeting point of trait approaches and reversal theory. The later-two should be considered complementary—and not antagonistic, which the above account may seem to suggest. Apter (2006) himself has given a great example of a trait in David, who is locked in a telic state.

David, who is aged thirty-seven, has a problem that has taken control of his life. This is that he lives constantly in fear of harm, and a disproportionate part of his time is spent in protecting himself from it. Thus he fears harm from burglary, so that he repeatedly checks the locks on doors and windows. He fears accidental fire, so that he frequently checks the wiring of electric plugs. He fears being attacked, so that wherever possible he avoids contact with strangers. And above all he fears infection, so that he washes his hands up to twenty-five times each day, always takes two showers a day, cleans his teeth up to twelve times a day, flushes the toilet two or three times after use, and records all his feelings of ill health, however minor or transitory, so that he can make accurate reports to his doctor, whom he visits regularly. ... If we look at his case in reversal theory terms, we see that he is locked in the telic state so that, unlike most people, he is not reversing back and forth between the telic and paratelic states

in the course of everyday life. (pp. 165-66)

This brings us back to trait versus state debate. As the name would also suggest, reversal theory predominantly or entirely concerns itself with reversal between different states. Traits are defined as difficulty or inability (or inappropriate strategies being used) to reverse between states. This explains the dominance of states over traits in reversal theory. In this manner, reversal theory seems antagonistic to trait theories, which seem devoid of states—and where traits are considered static that is persisting over long periods of time and under widely different situations.

ROASEI instead focusses on activities, which can be considered the building blocks of both traits and states. But activities cannot be caged in traits or states. According to the current theories, traits are relatively stable, and states are reversible—while according to ROASEI, the activities are modifiable through reorientation of activities, with a purpose of self-environment integration (paras 6.8 and 7). So, trait theories and reversal theory explain human personality, while ROASEI is a theory of activities. More than that ROASEI becomes a theory of change.

Imbalance and reorientation of activities, the dynamic duo of ROASEI framework have already been discussed (see para 12.1). Broadly two types of reorientation of activities have been described (see para 6.8 for details and examples). Firstly, reorientation may be reversible, minor, short-term, or routine—meaning for a short period of time. These short-term reorientations are parallel to reversals of reversal theory. Longer term (unlike reversible) or major reorientations may be in response to imbalance of activities. Such reorientations occur with a longer-term perspective to deal with future and immediate threats related to loss of control and imbalance of activities. These are trait changes, and no parallels exist between major or longer-term reorientation of activities and short-term reversals of reversal theory.

Figure 17. Parallels exist between ROASEI and higher (Big One and Big Two) levels of FF framework. Left side of the Figure (A) is a reproduction of Figure-11. The right side (B and C) looks at the parallels. See text for details.

Thus, trait theories are lacking in states and ignoring short-term reversals, while the reversal theory is largely concerned with short-term reversals between states and inability or inappropriate strategies adopted for such reversals. ROASEI seems more comprehensive, and it becomes a meeting ground of trait theories and the reversal theory.

12.2.2. *Quality of Activities Versus Inappropriate Reversal Strategies*

Here I will focus on what Apter (2006) called an inappropriate reversal or strategy and defined it as the “one which leads to unnecessary distress—either on the part of the person who is indulging in it or others with whom he or she is interacting” (p. 170). He further defined inappropriate strategies as “inappropriate ways of attempting to obtain and maintain the satisfactions intrinsic to that state and avoid the dissatisfactions” (p. 170). Comfort and distress, satisfaction and dissatisfaction are closely related words used by Apter—and it looks like analysis of the obvious. Because we can also say that humans have evolved numerous (and often inappropriate) strategies for attaining life’s comforts and satisfactions, and for avoiding the opposites.

The perspective of ROASEI in this regard has already been explained to some extent (see para 12.1). Three activities-circles (X, Y, and Z) are shown in Figure-17 A. Low stability and low plasticity in X, despite having dominance of RR activities, is explained by inferior quality of RR activities—or we may say that RR activities of X are inappropriate.

Thus, the convergence between (ROASEI and reversal theory) these two different perspectives becomes obvious—and people, who have inappropriate strategies deeply imbibed within them, need to be helped (sometime coaxed) into adopting better strategies. In this way, ROASEI based interventions such as multiple activities change intervention (Agarwal, 2020b) can be seen as a help in developing and adopting more desirable strategies for attaining comfort. I prefer the word less desirable in place of inappropriate, and I will stick to that for simple reasons. Inappropriate has not been used by Apter in a moral sense, but as a word it is absolute and often disparaging—and another reason is that life routinely presents opportunities for adoption of more and more desirable strategies. Taking a cue from Apter’s jargon—appropriate and inappropriate have a bistable (having two stable states) meaning, in comparison more and less desirable can be considered multistable or having many states (p. 27).

Let us look at some of the less desirable (or inappropriate) strategies. Tobacco and other substance abuse are less desirable because of obvious reasons. The same applies to risk taking behaviors such as unsafe sex and gambling. A child who gets her thrill by irritating her parents may use

socially less desirable behavior such as using profanities, refusing to eat, not doing her homework, or beating her sibling. All these examples have been included by Apter, but he fails to invoke a larger context. For instance, a person who makes excessive amount of money in life may appear to be mentally robust, and he may be keeping everybody around him comfortable and satisfied. This will be perfectly acceptable strategy from Aster’s perspective. But from the perspective of ROASEI, this will be considered less desirable.

We try to amass money for we want to be comfortably standing on a higher step of the social ladder. Many related questions should be asked. Is it easy to amass money? If say one hundred people begin to amass money, how many of them are likely to succeed in their mission? If money gets concentrated in few hands, what is the impact on the rest of the society? These are pertinent questions, and the answers are disturbing. It is not easy to earn large amount of money without unfair means. Very few will earn enough to successfully rise in social hierarchy and become comfortable. But even because of those who are trying the impact on the society will be adverse. We cannot simply amass (or even try to amass) money without harm to others. Under such conditions from ROASEI perspective, amassing money to become comfortable becomes a less desirable and a less practical strategy. For a related discussion, see para 5.2.

This “having more—wanting more” phenomenon or the phenomenon of looking at wealth as an end product is explained by ROASEI using a different perspective. According to this perspective, most of the ‘rich and successful’ individuals of our society have an activities-circle characterized by dominance of RR activities (Figure-17, A-X). They have wealth and status, but in the longer run they may also suffer from stress, anxiety, depression, lifestyle related disorders. A graphical account of the tragedy that struck a busy lawyer and his subsequent transformation has been given by Sharma (1997) in his bestseller.

Most of us unfortunately look at wealth as an end product—but reorientation of activities can lead to a deeper fundamental change in us. Thus, we become capable of using our wealth to achieve significant ends, an idea that Amartya Sen a Nobel laureate economist wants to promote (Sen, 1993). Our activities-circle changes from X to Z (Figure 17, A). Simultaneously, our anxiety, depression, and stress are relieved. our lifestyle improves, diseases go away, and wellbeing gathers momentum.

Commonly employed less-desirable strategies to become comfortable are tobacco and other substance abuse, excessive eating, risky behaviors like gambling unsafe sex and drunken driving, violence and terrorism. From ROASEI perspective, amassing money or garnering power will be in the same category. There are more of such less-desirable traits prevalent in our society, but ignored by the

western psychological perspectives—for instance discrimination on the basis of gender (female feticide, dowry, sexual harassment, and other forms of discrimination against women), cast, religion, language, disabilities, and economic status. These discriminations emerge from and lead to a multi-layered society having complex hierarchies. Justice and equality will remain distant dreams—unless we can find alternative strategies for comfort and satisfaction.

Through his reversal theory, Apter (2006) wants to reassert and re-establish the study of mental life in its original form, with least interference from biological and sociological sciences. In his words:

the starting point of all reversal theory investigations is the subjective meaning that we assign to our actions—what we consider ourselves to be “up to” at different times. In anchoring everything in subjective experience in this way, reversal theory shows how the original definition of psychology—the study of mental life—can be reasserted and re-established. In other words, it shows how psychology still has its proper sphere and can be rescued from the threat of total assimilation into biology on the one hand and sociology on the other. (p. xii)

ROASEI, on the other hand, has no antipathy towards assimilating or in getting assimilated by widely different disciplines. This is because ROASEI is focused on integration of the individual with her many environments (see para 7 and Figure-12). This brings us to wider and longer-term meaning of stability inherent to ROASEI. An individual can perfect stability only by ensuring the stability of these multiple environments. All of us want stability of our family, our neighborhood, our country, and our earth’s environment. We work for future stability, longevity, and disease-free existence. This is possible only by improving the quality of the activities.

Thus, inappropriate reversal strategies and quality of activities are parallel constructs. Probably quality of activities is one step ahead, as improvement in the quality of activities may become a continuous process that can lead to a wider stability.

12.2.3. *High Stability, Without Having High Plasticity?*

Is it possible to achieve and maintain high stability, without having high plasticity? We are often fearful of change. So, we resist change and try to remain as and where we are. In psychological terms, we want to achieve and maintain high stability, while keeping the plasticity low. That is, however, more or less impossible from a scientific perspective, because we have to continuously adjust with ceaselessly changing internal and external environments. This adjustment must continuously change individual as well as the environment. Therefore, the individuals must have the capacity to handle change. Plasticity is essential

for maintaining beneficial (stabilizing) interactions with environment. Lack of plasticity is likely to destabilize an individual, and combination of low plasticity and high stability is an enigma for living organisms.

Rich discourse exists showing that we are becoming less stable and less plastic by adopting poor quality of activities. Some of which I have already discussed (see paras 5.2 and 12.2.2). Our wealth and consumption (the GDP) may be going up, but our stability and capacity to change is becoming less and less. What Apter calls an inappropriate reversal strategy (see para 12.2.2) unmistakably takes the shape of modern consumption for Schumaker (2001):

The satisfactions associated with many types of consumption have deviated so far from real sources of need that they are best understood as a type of irrational sensuality that has been stripped of all profanity in the vague hope that it can continue to generate excitement. (p. 30)

Consider a common scenario: we are getting bored, and for reversal we go to a mall to buy goodies and to consume food and drinks. We can certainly have better (appropriate or more desirable) strategies to fight boredom, but our persistence with excessive consumption continues to grow. This is lack of plasticity. Schumaker (2001) was trying to find the links between these patterns of consumption and mental illness. So, modern consumption has failed to assist us in our quest for stability. This consumption seems to have extended to consumption of prescription drugs—a phenomenon, which has been particularly studied with antidepressants (Medawar, 1997). We continue to consume more of them, while the prevalence of depression continues to rise in our society. Our failure to make any amends in such dire circumstances can only be explained by lack of sufficient plasticity in us.

In his ERG theory, Alderfer’s seventh major proposition is “The more growth needs are satisfied, the more they will be desired” (Alderfer, 1969). Modern consumerism, capitalism, and unreasonable quest for amassing money and power can be explained as our unending quest for growth. But from a ROASEI perspective—consumerism and amassing wealth/ power—these are RR activities (and not GR activities). In modern times these activities occupy a lot of space in our life, making our life RR dominant. I have already explained how RR dominance correlates with low stability and low plasticity (see para 12.1).

A large majority of individuals belongs to low stability and low plasticity category. In case of Big Two also, the weight is tilted towards Stability, but a tilt towards Plasticity is possible. “Stability component (Neuroticism, Conscientiousness, and Agreeableness) overweighs Plasticity (Extraversion and Openness) in the Big One. However, the solution, where the Plasticity component would explain more variance in the Big One than Stability component, is fully imaginable” (Musek, 2007). However, as discussed

above, this tilt towards stability only means dominant RR activities (and not a tilt towards high or qualitatively superior stability). Thus, according to the ROASEI perspective, we cannot hope to achieve high stability without having high plasticity simultaneously.

12.2.4. *Usage of Prescription Drugs for Personality “Enhancement”*

Humans have used drugs to enhance their psychological functioning since our ancestors discovered the mind-altering effects of plant derived preparations. Freud himself used and enthusiastically “pressed cocaine on patients, family, colleagues and friends” (Medawar, 1994). Modern psychoactive drugs, such as barbiturates and benzodiazepines, are known to be addictive, but they continue to be prescribed today.

Years before this Freudian skid – and ever since – doctors have prescribed a virtually uninterrupted succession of addictive drugs for anxiety and the like, each time in the mistaken belief that the drugs would not cause dependence or that it was the patient’s fault if they did. (Medawar, 1994)

Today pharmacological interventions are increasingly going beyond medical settings. This means giving prescription drugs to normal individuals for performance or personality “enhancement”. During last century, in his *Listening to Prozac*, Kramer (1993) went gung-ho with the idea of “enhancement” and introduced the term *cosmetic pharmacology*. Within a decade, use of psychopharmaceuticals was picking up: selective serotonin reuptake inhibitors (SSRIs) to modify mood and personality in nondepressed people, and stimulant methylphenidate to improve attention and school performance in normal children. (Hall, 2004)

The usage of SSRIs and stimulant methylphenidate was only a beginning, and currently the stakes are being raised, as a big potential for (mis)use of prescription drugs for personality “enhancement” exists.

And the next wave of drugs in the pharmaceutical industry pipelines will extend even further beyond mood and attentiveness. One obvious candidate, because of the increasing age of the ‘baby boomer’ generation, is memory. Drugs that are now being developed to treat memory loss in Alzheimer’s patients could also be used to enhance memory function in healthy people. In addition, given the huge potential market for memory enhancers, therapeutics may be developed specifically for this purpose (Farah et al, 2004). Other drugs might attenuate unpleasant and traumatic memories (President’s Council on Bioethics, 2003) or enhance ‘executive function’—our ability to allocate our attention to difficult tasks in a sustained and efficient way (Farah et al, 2004; Hall, 2003). (Hall, 2004)

Unlimited and unregulated use could coerce unwilling citizens into using enhancement technologies to compete effectively for education and employment opportunities (Farah, 2002). Such a scenario is not too far-fetched; critics point to the increasing abuse of performance-enhancing drugs in elite sports and the use of stimulants by school-aged children (Fukuyama, 2002; President’s Council on Bioethics, 2003). (Hall, 2004)

It would be interesting to analyze such personality “enhancement”, using prescription drugs, from the perspective of ROASEI. My assumption is that such “enhancement” is a part of the race for material possessions and consumption, and such “enhancement” is meant to make us better (more suitable) for that race. Enhancement, therefore, is the right word for what the drugs would supposedly do. That is enhancement of the qualities that we already have. So, my assumption is that we have on cards the enhancement of already existing “having more—wanting more” phenomenon. The undesirability of that I have already discussed.

Notwithstanding Kramer’s proclamations, and the push of Big Pharma, the limitations of using prescription drugs for “enhancement” of personality are surfacing. SSRI are amongst the most researched class of drugs. “Empirical data are accumulating to suggest that SSRIs, when used non-clinically, can affect some facets of Neuroticism, with most consistent support for a specific medication-related reduction of Angry Hostility” (Ilieva, 2015). On the contrary, sufficient evidence is lacking to substantiate the SSRI-driven change in other Neuroticism facets, such as Impulsiveness—and in Extraversion facets such as Warmth, Gregariousness, or Assertiveness. “Future data are needed to corroborate and extend the existing findings, as well as to determine whether, in non-clinical samples, reliable effects emerge globally at the trait-level, or whether they are confined to specific facets.” (Ilieva, 2015)

SSRIs or other psycho-pharmaceuticals are expected to lead us to “enhancement”, but the futility of that “enhancement” is already discussed. On the other hand, ROASEI is looking at a different direction or a fundamental change in the individuals through reorientation of activities, leading to dominance of AR and GR activities, as shown in Figure 17.

Section-Five: Potential Effects of ROASEI on our Society

So far, I have discussed the basic principles of ROASEI, and I have compared this theory of activities with need and personality theories. I have already discussed the concept of self-environment integration in a theoretical perspective.

13. Introduction to ROASEI Based Interventions

In this section, I will try to conceptualize the potential effects of ROASEI based interventions on society in general and medicine in particular. I am going to invoke a simple four-step pathway of disease causation and disease regression. Activities occupy very special place in this pathway. Interventions leading to large scale positive changes in activities will improve the quality of healthcare by reducing its need. Such large-scale positive changes in activities may become a vehicle for development of better-quality individuals and a better society.

13.1. Is it Possible to Have an Intervention Targeting Multiple Activities?

Multiple health behavior research is on our radar (Alfredo Morabia & Costanza, 2006), and interventions are being designed to promote *multiple health behavior change* (A. Morabia & Costanza, 2008). Current research is trying to target multiple risky behaviors together (instead of targeting them individually), but it is following the same old risk factor approach (see para 1.1.2). And the focus is on prevention, while the focus of ROASEI based intervention is going to be on regression of disease. From trying to define disease specific clusters of risky behaviors, we may shift to a truly nonspecific approach through ROASEI based interventions. By today's standards that may be considered difficult or even impossible.

Let us look at the difficulties of changing many or all of our activities. The sum total of these difficulties would be = difficulties for changing activity 1 + activity 2 . . . + activity n. And we will consider the benefits of changing such large number of activities = benefits of changing activity 1 + activity 2 . . . + activity n. Then we are likely to think that changing many activities must be a very difficult intervention and practically its benefits will amount to nothing. However, the reality is that whole is not always equal to its parts—as Anderson (1972) argued, “More Is Different”—and while moving from less complex to more complex, “at each level of complexity entirely new properties [would] appear”. Properties of water cannot be deciphered by the properties of its elements—and a painting is not the sum total of colours used by the painter. And as Anderson ended his argument and rested his case, the differences between the rich and poor cannot be reduced to the fact that the later have more money. Therefore, it may be far easier to change multiple activities together, and the benefits of changing large number of activities may be far in excess of our wildest anticipation.

ROASEI based interventions would attempt to change multiple activities simultaneously through manipulation of activities circle or reorientation of activities. In Section-three, I have discussed the basic principles of manip-

ulating activities-circle. See Figure 13.

13.2. What Would Multiple Activities Change Mean for the Society?

An intervention, that simultaneously changes multiple activities of the individual, may have huge impact on the individual and the society. The potential impact on the health sector is being discussed below. However, it may be hoped that the benefits would easily and widely surpass health sector and multiple dimensions of society would improve—because changing multiple activities would empower an individual, who would then strive to become a better-quality individual. (See paras 1.1.4, 3.5, 4, 4.1, 5.1, 5.2, 6.8, 6.9, 6.10, 6.12, 7, 8, 12.1, and 12.2).

14. A Simplified Four-Step Pathway of Disease Causation and Disease Reversal

A simplified Four-Step pathway or model pertaining to health and disease is presented in Figure 18. At the bottom (Step-1) are societal factors. The activities of the individual are at Step-2. Governing and controlling (nervous, endocrine, and immune) systems of the body are at Step-3. Finally, at Step-4 we find the resultant diseases affecting individual organs and systems of the body. It needs to be emphasized that bidirectional arrows interconnect these steps—for example social conditions influence our activities, and our activities influence social conditions. To extend this argument further, severe disease conditions of organs and systems (Step-4) will adversely influence the regulatory systems (Step-3) that will in turn adversely influence the activities (Step-2).

Generally speaking, this will be considered a pathway of disease causation. Then why do I call this a pathway of disease causation and disease reversal? It is because the same pathway will lead to regression and reversal of disease. Improvement in social conditions can lead to improvement in the activities. Improvement in activities can lead to a better regulated neuroendocrine-immune system that can in turn lead to regression and reversal of disease.

In this model, I have envisaged three levels of interventions—A, B, and C. What we consider healthcare today consists of Level-C interventions directed against specific diseases. Level-A interventions are societal level interventions such as providing housing to the poor, safe drinking water, universal education, and employment generation. Level-B interventions are individual centric, directed at changing the activities of the individual (and not directed against any specific disease). The existent examples of such interventions are physical exercise, healthy food, Yoga, and meditation. This paper begins by conceptualizing a simple model of activities (Figure 1). Then in Section-two,

Figure 18. This depicts a simple Four-Step pathway of disease causation and reversal. Three levels of interventions act on these four steps. MACI or other ROASEI based intervention are Level-B intervention that would act on Step-2 of this pathway. See text for details.

I have tried to develop a full-fledged theory regarding re-orientation (meaning change) of activities. Thus, ROASEI is intended to take Level-B intervention to a much higher level.

14.1. Can Diseases Regress?

We may be feeling skeptical about the regression part. However, regression has been observed in conditions such as angina and coronary heart disease (Ornish et al., 1998), diabetes, and many types of cancers. Many infectious diseases including tuberculosis are known to regress spontaneously. Tuberculosis patients were sent to hill stations, before the discovery of anti-tubercular drugs. Type 2 diabetes is known to regress after weight loss (Ardestani, Rhoads, & Tavakkoli, 2015), and with intensive control (McFarlane et al., 2001). Spontaneous regression of cancers has been observed, and possible mechanisms include elimination of carcinogens, psychological factors (Papac, 1998), lifestyle changes (Ornish et al., 2005), and prayers (Chang, 2000).

14.2. What Would it Mean for Medicine and Healthcare?

Next genuine revolution in healthcare and many other areas must come through an intervention targeting our (multiple) activities. Theoretically speaking simple non-specific lower-level activities-change (or Level-B) interventions can replace specific, costly and inefficient higher-level (or Level-C) interventions—thereby reducing the need of healthcare resources including the number of healthcare workers. Much of the healthcare can be taken away from the hands of the physicians (and other formally trained healthcare workers) and brought into domain of individuals and the society. This downsizing will have positive effect on the quality of healthcare workers in general and physicians in particular, as poor-quality medical colleges can be closed down.

15. Should Activities-Change Interventions (Level-B) Replace Some Level-A Interventions?

“The biggest enemy of health in the developing world is poverty, and the struggle for health is part and parcel of the struggle for development.”, said Kofi Annan in World Health Assembly of 2001 (POVERTY BIGGEST ENEMY OF HEALTH IN DEVELOPING WORLD, 2001). In his last days Gandhi wrote in his diary, “I shall give you a talisman. When faced with a dilemma as to what your next step should be, remember the most wretched and vulner-

able human being you ever saw. The step you contemplate should help him” (Pyarelal, 1958). In recent years a number of bold moves by Prime Minister Modi have started to touch the life of most vulnerable sections of our society. Some examples of these outreach initiatives are 100% rural electrification (Agrawal, Kumar, & Joji, 2020), Pradhan Mantri Awas Yojana (Arora, 2019), open defecation free India (Exum, Gorin, Sadhu, Khanna, & Schwab, 2020; Patwa & Pandit, 2018; Ramani, 2019), Pradhan Mantri Ujjwala Yojana (Gould & Urpelainen, 2019; Mittal, Mukherjee, & Gelb, 2017), and Pradhan Mantri Jan Dhan Yojana (Kar, 2019). Significance of these Level-A interventions cannot be undermined. However, hundreds of such initiatives would not be enough, if the purpose is attainment of equity of health.

15.1. The Status Syndrome: Why Fulfilling Basic Necessities is not Enough?

Social factors influence our activities in more complex ways. Marx reportedly said that quantitative differences become qualitative ones, and it is too simplistic to think of the difference between rich and poor, as former having more money (Anderson, 1972). Poverty has adverse health consequences, but a more challenging phenomenon exists. Marmot (2006) called this Status Syndrome, a social gradient in health in individuals who cannot be considered poor: the higher the social position, the better the health.

Nearly forty years ago, first publications that drew our attention to the subject of social gradient and health inequalities conspicuously originated from UK. By analyzing the data from the first Whitehall study of British civil Servants, it was for the first time observed that health followed a social gradient (Marmot, Rose, Shipley, & Hamilton, 1978). Health disparity was evident across all four British employment grades: other, clerical, professional/executive, and administrative. “Men in the lower employment grades were shorter, heavier for their height, had higher blood pressure, higher plasma glucose, smoked more, and reported less leisure-time physical activity than men in the higher grades.”

After overall risk analysis, it was not surprising that in comparison to the top (administrative) grade, those in the bottom grade showed 53 percent higher prevalence of angina and 77 percent higher prevalence of ischemic-type ECG abnormalities. After 7.5 yrs. of follow up, the coronary mortality was 3.6 times higher in the lowest than in the top grade. Marmot et al. (1978) remarked in discussion: “Our most striking finding was the size of this social class effect: a man’s employment status was a stronger predictor of his risk of dying from coronary heart disease than any of the more familiar risk factors.”

It is not that the risk jumped suddenly, but the consistency is the concern with which it kept on rising across the grades: meaning executive/ professional grades had

higher risk than administrative, but lower risk than clerical—while the other grade had highest risk of all. There is an eerie resemblance between Whitehall study data and what Erikson observed down the educational hierarchy in egalitarian Sweden. That individuals with a PhD had lower mortality than those with a master's degree, who had lower mortality than those with a bachelor's degree, and so on (Erikson, 2001). Presently we can only speculate about some fundamental processes that seem to be at work in our society. Material deprivation is not the answer as to why someone with a master's degree should have greater mortality than a PhD. Similarly, material deprivation is not the cause why a professional should have greater mortality than an administrator.

15.2. The Alternate Meanings of Wealth and Poverty

Amartya Sen considers wealth as means to significant ends (Sen, 1993). This meaning of wealth has been discussed in para 5.2. In his writings, he has also analyzed the real meaning of poverty that is relevant for our purpose. Sen is fond of talking about Kerala—home to less than three percent of India's population. Two decades ago, Kerala had—and it still has (Suryanarayana, Agrawal, & Seeta Prabhu, 2011)—the unique distinction of having highest life expectancy at birth among Indian states (74 against 63.5 for the whole of India). Amongst Indian states, Kerala is also the highest in Human Development Index. This distinction has been achieved, despite relative economic backwardness—and the achievement is presumably due to its low levels of economic and educational disparities. There is evidence to show that Kerala's population is most egalitarian among the Indian states. In Human Development Index (2011 data), the average loss due to inequality is 32% at the All-India level. It is the highest for Madhya Pradesh (36%) and the lowest for Kerala, a mere 17% (India State-Level Disease Burden Initiative, 2017). Kerala is perhaps the only state of India, where females outnumber males. Overall, the ratio is 0.93 in India. This shows the equality that women enjoy in Kerala.

Sen compared Black Americans with Keralites and Chinese, to show significant and persistent deprivation existed in a rich country like USA. And in the process, he was able to highlight the changed definition of poverty and deprivation across the world (Sen, 1993, 1999). Black American men had lower survival prospects than both Chinese and Keralites. Black American women were slightly better than Chinese but fared worse than Keralites. This is insightful because Black Americans were immensely richer in income terms vis-à-vis people of China or Kerala (even after correcting for cost-of-living differences). So Black Americans were not poor by world standards, nevertheless they were poor.

Sen upped the ante by comparing Black American men living in Harlem with Bangladeshi men. Fewer than for-

ty percent of Harlem men were likely to reach 65 years in comparison to more than 50 percent Bangladeshis. By US standards the Harlem men may have been poor, but they were much richer than Bangladeshi residents, even after necessary adjustments.

Sen also discussed the effects of high unemployment in Europe. The political establishment preferred to downplay the adverse effects of being jobless—arguing that there was no deprivation, as European system of social security and the unemployment insurance made up for the loss of income. Sen (1999) debunked such logic:

it is also a source of far-reaching debilitating effects on the individual freedom, initiative, and skills. Among its manifold effects, unemployment contributes to the “social exclusion” of some groups, and it leads to losses of self-reliance, self-confidence and psychological and physical health. (p. 21)

Thus, unemployment is not merely a deficiency of income. It entails heavy fiscal burden on the state, and unemployment entails deprivations that are nowhere reflected in income distribution statistics.

So, poverty cannot be defined in monetary terms alone. Black Americans are poorer than Keralite Indians. This is a different kind of poverty that the unemployed in Europe also experience despite their social security and unemployment insurance. These poor from richer nations tell us a story that the poor of the poorest nations cannot tell—a story that highlights the alternate meaning of poverty.

15.3. How are Social Disparities Translated into Health Inequalities?

A complex web of factors links social disparities with health inequalities. We have strong evidence that those at the lower social strata have unhealthy lifestyles: meaning they are more likely to consume tobacco (Bhan et al., 2016; Jarvis & Wardle, 2006) and energy rich unhealthy food (Robertson et al., 2004, p. 158). Many other unhealthy behaviors such as unsafe sex, lack of physical activity or sedentary habits, and excessive alcohol intake can also have higher prevalence amongst disadvantaged or less privileged sections of society.

There is evidence that social support depends on the social class (Geckova, van Dijk, Stewart, Groothoff, & Post, 2003; Turner & Marino, 1994). Countries with greater income inequality have higher homicide rates and violence, because wide income differences are considered socially corrosive. Putnam (Putnam, 2000) illustrated the inverse relation between economic inequality and social capital. During the early part of last century, in his view, the economic differences were narrow and community life was greater. So, the social support for the poor is declining, and this must be contributing to health inequalities.

Stress is slowly emerging as an upstream link between social disparities and health inequalities. For a comprehensive view, the reader is referred to Brunner and Marmot (2006). Stress is considered a highway to unhealthy lifestyle choices. It is a common observation that, when under stress, people go for binge eating or drinking, and they smoke or indulge in other risky behaviors. This common observation has been scientifically validated by Walsh et al. (2013)—see para 3.5.

It has been argued that “social context early in life can have a strong influence on resources and opportunities (and, thus, on living and working conditions) at later stages” (Braveman & Barclay, 2009). Thus adults, working in lower grades or having lower income or educational qualification, are likely to have a (life) long experience of a disadvantaged social position. Therefore, it is the long experience of social disadvantage or disadvantage beginning in early life that should be considered responsible for health inequalities, rather than the present social position or grade.

15.4. Interventions Based on Ecological Framework

Social disparities lead to health inequalities through multiple mechanisms. This has forced us to think in terms of ecological framework that wants to seek social ecological solutions, when people in the disadvantaged social position suffer from multiple damaging effects of stress, including indulgence in unhealthy behaviors. Ecological framework seeks to “focus attention on the environmental causes of behavior and to identify environmental interventions”, while focusing solely on individuals is considered “victim-blaming ideology” (McLeroy et al., 1988). Thus, attention of the reformer ideally should be transferred to public policy, community, workplace or the organization, and social norms. Unfortunately, the objectives of ecological solutions remain the same that is promoting healthy behaviors such as quitting tobacco, physical activity, safe sex, and healthy food. Therefore, differences between individually-focused and ecologically focused health promotion strategies are subtle. We should be striving for more comprehensive ecological interventions.

Theoretically speaking, interventions based on ecological framework may be Level-A interventions (directed at environment), or a mix of Level-A and Level-B interventions (directed both at the individual and the environment). They may also be Level-C interventions, if the target is a specific disease such as prevention or control of asthma.

15.5. Improving Activities can Mitigate Social Disparities

Social gradient, status syndrome, or a different mean-

ing of poverty—they are multiple constructs to know how social disparities are related to health inequalities. We have broadly understood the mechanisms linking social disparity and health inequalities; however, we do not have the ways and means to break these links. I contend that we should examine the potential of activities change, as it is only improved activities that can provide us with a solution.

Mitigating the effects of social disparities would require dealing with stress, social isolation, unhealthy behaviors, and living and working conditions. This will require large scale changes in activities. Let us take the example of an unskilled casual laborer, who is an alcohol and tobacco user and indulges in domestic violence. He is socially isolated and not covered by any health insurance. His family faces a real risk of health and economic disasters. Thus, he is facing multiple problems and traditional interventions would be of little use for him. Only hope can be an intervention based on activities model that reduces multiple harmful activities, increase useful activities, and converts disease-prone person to a self-healing person (Figure 1). In para 5.1, a similar example is given. A student is unable to focus on her studies. Current theories are good in explaining her behavior, but they cannot actually help her. And only modifying the activities can lead to substantial positive changes in her life.

15.5.1. *Ecosystem Needs to be Changed.*

For the ecosystem to be changed, large number of individuals should improve their activities. Health promotion at the individual level may amplify health inequalities socio-economic disparities. Concerted political action is needed for improving the health of whole populations, especially that of disadvantaged subgroups (Mackenbach, 2009). MacDonald (2009) argues on the same lines that medical breakthroughs

have, if anything, widened the inequity gap further. For what we have witnessed is the already moderately healthy becoming healthier yet, while similar levels of progress have been far less evident among those already most deprived. In other words, it has not been through lack of knowledge, so much as through lack of wisdom (and certainly lack of morality) in applying what we know, that we have caused the problem we face now. (p. xvi)

Baum calls for policy changes and advocates deeper structural reforms in social, political, economic, and other spheres (Baum, 2019). Such calls are not new. Nearly 70 years ago, Radhakrishnan (1967) called for spiritual reawakening of the human kind, a recovery of faith, far deeper than any social, political, or economic adjustment.

To change this faulty ecosystem, we need to improve multiple dimensions of our society—while every individual needs to contribute, some need to become the leaders.

This paper envisages some individuals becoming better quality individuals and leading the challenge of changing the existing systems. Also see para 7.

15.6. Should Level-B Interventions Replace Some Level-A Interventions?

We have come back to the original question that we asked in the title of para 15. Even after a long discussion, the question may seem unanswered. I will attempt a short answer here.

Level-A interventions by themselves cannot eliminate social disparities and health inequalities to any significant extent. We have seen examples that such disparities and inequalities continue to persist even in rich countries (see paras 15.1 & 15.2). This makes increased emphasis on changing activities (Level-B interventions) obligatory (see para 17).

16. Should Level-B Interventions Replace Some Level-C Interventions?

Barring Level-A and B, all other interventions are Level-C interventions (Figure-18). Since Level-A and Level-B interventions are by definition non-specific and non-medical, Level-C interventions are supposed to be medical, specific, and directed against particular disease entities. This supposition about specificity is only partially true or may be entirely untrue. Whether medical or surgical all treatments have non-specific effects and placebo actions. Even an antibiotic, acting against deadly bacteria, has a placebo effect. Psychotherapies, supposedly acting against specific psycho-pathology, have non-specific components such as personality of the therapist, therapeutic alliance, and the adherence to a protocol. Manner of the physician and good communication are part of the art of medicine that have powerful non-specific effects. Most of the beneficial effects, related to complementary and alternative treatments, are suspected to be due to powerful but non-specific placebo actions.

We must look at Hyland's (2011, pp. 207- 246) classic discussion—how so-called specific treatments (belonging to both modern and alternative medicine) have powerful nonspecific arms, and that 'nonspecific' element may be partially or even entirely responsible for the beneficial effects of the 'specific' treatments. We may be apt to consider nonspecific to be less important or the other part of therapy. But Hyland (2011) found that the other part explains

at least 80% of the improvement that occurs when patients take antidepressants; it accounts for about 90% of improvement from psychotherapy (some suggest even more); and in the case of complementary and alternative medicine it accounts for between 80% and 100% depending on the therapy

and controversial conclusions of those working in this field. (p. 2)

So, this model divides Level-C into indistinguishable but valid C1 (specific) and C2 (nonspecific) arms (Figure 18). The relative strength of these arms may vary from intervention to intervention. And at least in some interventions the C1 arm may be non-existent. As shown, C2 the nonspecific arm acts on the nonspecific Step-3 of causal pathway. This C2 arm acts as a placebo—and is liable to be replaced by a powerful Level-B intervention. Few of the treatments that will fall in this (dominant C2 arm) category are: psychotherapies, many of the psycho-pharmaceuticals including antidepressants, backache remedies. Much of the complementary and alternative medicine will fall in this category. With a powerful Level-B intervention replacing such remedies, treatment of many conditions will be simplified. These include depression and other common psychological disorders, backache, asthma, coronary artery disease, and medically unexplained symptoms. These conditions together constitute a very large chunk of ill-health, and I have not made a complete list here.

17. The Bigger Picture

This paper looks at a Four-Step causal and reversal pathway. The super highway to disease may well become the super highway to health, depending on the choices that we make. 'We' includes the individual, the family, the society, the business, the political establishment, and the international community. Unfortunately, in this context, the choices that the individual is making are becoming and more and more peripheral.

Nestle (2007) has been promoting the idea that food and beverage companies have some responsibility for the food choices of individuals. She argued: when confronted with their marketing tactics, we as individuals stood little chance to eat the food that was in our best interests. South Korea, Norway, Sweden, and England have passed laws, banning or restricting food advertisements, particularly those targeting children. USA and Australia want the food industry to go for responsible self-regulation. But Financial Times reported that McDonald's was set to double number of its restaurants in China. Will Indian policy makers wake up to the call and restrict the promotional activities of food companies?

It is widely believed that tobacco giants had a say in India's tobacco-control policy, and even parliamentary committees deciding on tobacco were staffed by tobacco barons (N. C. Sharma, 2015). These things are changing, with anti-tobacco campaign becoming shriller. But more things change, more they remain the same ("Parliamentary panel recommends regulated FDI in tobacco sector," 2020). Many people, including children, work in hazardous workplaces. Occupational medicine is long recognized

a separate branch of medicine—but the individuals and the families continue to suffer, as it is not easy to quit a breadwinning job merely because of its risk potential. Air or water, wherever we live, may be getting increasingly polluted. Our neighborhoods may be noise, crime, or violence infested. Urban planning in a densely populated megacity can influence our wellbeing, as living in areas with walkable green spaces has shown to increase the longevity of senior citizens independent of their age, sex, marital status, baseline functional status, and socioeconomic status (Takano, Nakamura, & Watanabe, 2002). These arguments may and will look trite—but without empowering the individual to address these and many more such issues, the important objective of equity in health cannot be achieved. It is hoped that powerful Level-B interventions would prepare the individuals for improving the quality of the self—and for multiple collective actions for the larger good of the humanity and the environment. It can be argued that Level-A interventions are also influenced by the individuals—and if we look at Figure-18 again, we will find individual (and her activities) at the center of a hub. Developing and adopting a robust model of activities should become our foremost priority.

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