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# Energy Processes in Personality Dynamics

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# I. INTRODUCTION

## Abstract

This Thesis aims to provide insight into the psychological and mental aspects by establishing parallels with fundamental physical and chemical energy processes to develop a new paradigm for psychotherapy - **energy-oriented psychotherapy**. This study is principally concerned with personality dynamics, including the concepts of consciousness and intelligence, which constitute the fundamental tenets of psychotherapy. Therefore, it seeks to examine the objective energy processes that form the basis of personality dynamics, including cognitive functions, personal growth, and transpersonal interactions. A comprehensive understanding of the essential energy processes represents a significant advance in knowledge beyond the scope of modern neuroscientific understanding of psycho-emo-somatic processes. This new paradigm is built on a historical retrospective overview of interdisciplinary frameworks and emerges as a new concept of psychotherapy. The Thesis provides a thorough and unified framework for further investigation into the nature and dynamics of human personality.

## Background

With the initial background as a specialist in Mental & Speech Therapy (1993, MSc, Moscow State Pedagogical University, Russia), I took an interest in Special Psychology and Learning Disabilities, specialising in Mental Health. The Special Psychology field relates to the diagnosis, therapy, and education of children and adults with sensory, physical, cognitive, and neurological disorders. My first academic research was in the form of a diploma Thesis, called "The characteristics of maladaptive behaviour in children with alalia" (1993).

Later, I graduated as a Medical Doctor (2002) and as a Clinical Psychotherapist (2013) from the Pirogov Russian National Research Medical University, Moscow. I have since

had my private international practice as a clinical psychotherapist, based in Cyprus and later in Germany.

The present study is a collective endeavour based on theoretical and practical studies conducted by scientists affiliated with various academic institutions of Oxford, Cardiff, Harvard, Cambridge, Stanford, Boston, San Francisco, Moscow, etc., experts in biology, physics, chemistry, psychiatry, medicine, psychology, neuroscience and other fields.

A preliminary version of this concept was presented in a diploma Thesis at the Karvasarsky' Institute of Psychotherapy and Medical Psychology, St. Petersburg, Russia, in 2021. The Thesis, entitled "The Universal Potential and Fractal Principle of Somatic, Mental, Psychological, and Collective Processes," represents an initial research project investigating the energy processes involved in personality dynamics.

The present study represents the next phase of research in this field, with a particular focus on the relationship between personality dynamics and energetic processes and their implications for psychotherapy.

**Overview**

The concept of energy processes within the human psyche is frequently overlooked in contemporary medical practice and clinical psychotherapy, with the notion of psychological and mental energy still being employed solely as a metaphor. Nevertheless, the energy processes in the human mind and emotions are not fundamentally distinct from those in the physical body or even, in a broader sense, from sound or heat waves. It is imperative to acknowledge that energy is ubiquitous in all processes, irrespective of whether these processes occur at the atomic, transformer, computer, or human level. This is because energy represents the fundamental attribute of matter, which propels all phenomena within the universe, including personality dynamics.

The concept of viewing personality dynamics as an energetic process is not a novel one. The Dictionary of Psychology asserts that in classical psychoanalytic theory, psychic or

mental energy is posited as the dynamic force behind instincts, drives, and cognitive processes (American Psychological Association, 2018). A number of pioneering figures in neurobiology, psychology, and physiology have situated energy at the core of their theoretical frameworks: Gustav Fechner (1905), William James (1907), Sigmund Freud (in Gay, 1988), Charles Sherrington (1940), Hermann von Helmholtz (in Cahan, 1995), and others.

In the last decades, there has been a resurgence of interest in the scientific community in energetic or thermodynamic-related theories of consciousness, with research conducted in several different scientific disciplines. Among the other researchers/academics is Dr. William A. Tiller, professor of Materials Science and Engineering at Stanford University, USA, who has initiated revolutionary research on subtle energies, intentionality, and consciousness (1997, 2007). The other notable authors are Deacon (2013), Collell and Fauquet (2015), Annila (2016), Street, 2016 Tozzi et al., 2016 2018, and Strawson in the field of philosophy of mind (Strawson, 2008, 2017).

Neuroscientist Harris R. Lieberman (2007) defined “mental energy” as the ability or willingness to engage in cognitive work. While physical energy can be objectively determined, the concept of mental energy is a relatively new one. Mental energy can be understood as a mood, but it can also be described as the ability or willingness to engage in cognitive work. H. Lieberman offers a number of methods that can be used to assess mental energy, including tests of cognitive performance, mood questionnaires, electrophysiological techniques, brain scanning technologies, and ambulatory monitoring.

As noted, scientists disagree on precisely defining "mental energy." From a psychotherapeutic standpoint, this Thesis aims to gain a deeper comprehension of the nature of mental energy in relation to consciousness and intelligence. Pepperell (2018) from Cardiff Metropolitan University, United Kingdom, suggests that consciousness is a physical process caused by the organization of energy in the brain. It can be posited that

physical processes occur in time and space and are causally determined by the actions of energy, forces, and work upon matter.

Johnjoe McFadden (2002), an academic and professor of Molecular Genetics at the University of Surrey, United Kingdom, has proposed electromagnetic theories of consciousness. In his work, thoughts are viewed as electromagnetic representations of neuronal information. Susan Pockett, a neurophysiologist from New Zealand, has put forth a theory that shares a similar physical foundation with McFadden's. This theory posits that consciousness can be understood as a specific type of spatio-temporal pattern within the electromagnetic field (McFadden, 2000, 2012). In practice, a technique known as BCI (brain-computer interface) is developed based on the analysis of spatio-temporal electrical signals of the brain. BCI is based on the direct conversion of the user's intentions, as reflected in the recorded spatio-temporal electrical signals of the brain, into control commands.

Several Russian scientists and specialists from Lomonosov Moscow State University, Burdenko National Medical Research Centre for Neurosurgery, and Bauman Moscow State Technical University are currently engaged in further research and development of exoskeleton control systems that operate directly from the brain. These systems work using electroencephalography, which is used to decipher a person's intention to type a particular letter on a computer screen. This technology is similar to the one Stephen Hawking tried before choosing the Intel project instead.

Dr. Alexander Kaplan, psychophysiologist, professor of the Department of Human and Animal Physiology, and head of the Laboratory of Neurophysiology and Neurointerfaces at the Faculty of Biology, confirmed that with the help of the so-called Neurocommunicator patients can switch on and off household appliances without any physical assistance, without using muscular effort and using only mental commands. The Neurocommunicator is currently being tested in a neurological clinic and neurorehabilitation centers.

Fundamental organizations such as the Institute of Electronic Control Machines (INEUM of I.N. Bruk), in collaboration with the Laboratory of Neurophysiology and

Neurointerfaces led by Dr. Kaplan and the companies Roselectronics Holding of Rostec State Corporation, Neurobotik, and Android Systems, are engaged in the development and production of neural interface systems for the control of prosthetic limbs, exoskeletons, phantoms of limbs, and wheelchairs. (INEUM, B. I. (n.d.) (2017/2025), Morozova et al. (2024), Miroshnikov et al. (2024), Medvedeva et al. (2024), ROSTEC (2017/2025) etc.

The practical application of brain-computer interfaces lends support to the concept of psychosomatic unity and the notion that brain waves in the form of thoughts, will, impulses, intentions, or emotions are analogous to other physical energy waves in the universe, as proposed in this Thesis.

According to researchers, the concept of consciousness as a mental activity cannot be reduced to studying neural activity alone. Lahav and Neemeh (2022), physicists from Bar-Ilan University in Israel, propose that the investigation of consciousness should be conducted with the same mathematical tools that physicists employ in their study of other known relativistic phenomena.

Pollard-Wright (2022) along with Holly (2021) has developed a transdisciplinary theory of mind called the Feelings of Knowing - Fundamental Interoceptive Patterns. Dr.Pollard-Wright used the unified theory of physics and biological information through consciousness, where the mind is seen as the energy of relationships. According to this theory, affective states are the primary source of emotional and perceptual experiences; emotions, thoughts, and memories constitute the content of consciousness. The capacity of living organisms to respond with anticipation is dependent on their sensitivity to bodily sensations. In addition to this, it is of significant importance to highlight that the concept of consciousness occurring within the brain suggests that consciousness is a subjective experience intrinsic to the human condition. Isolated from the body, the brain is unable to maintain consciousness (Pepperell and Yazdani, 1995).

The ideas of Pollard-Wright, Pepperell, and other modern scientists are not novel; rather, they align with the existing theories of bioenergetic understanding of personality proposed by Wilhelm Reich and Alexander Lowen. The common ground between all

these theories lies in the connection between the three fundamental dimensions of personality dynamics: (1) psycho-, (2) emo-, and (3) somatic. These dimensions mutually reinforce and influence each other and have one source - the energy.

Dr. Candace Pert, a Research Professor in the Department of Physiology and Biophysics at Georgetown University Medical Center in Washington, USA, made a significant discovery that altered the scientific understanding of the mind-body connection at the moment. Dr. Pert asserts that emotions are not merely the result of chemical processes within the brain. They are electrochemical signals that convey emotional messages throughout the body (Pert, 2007).

In the same sense that chemistry is impossible without physics, emotions should be regarded as chemical and physical processes: “It is chemistry, but it’s also physics and vibrations.” (Pert, 1999) Neurotransmitters are chemicals that facilitate the movement of electrical charge across neuronal membranes. The electrical signals that operate within our brains and bodies influence how cells communicate and perform their functions.

In 2014, the Finnish research group from the Department of Biomedical Engineering and Computational Science and Brain Research Unit of Aalto University hypothesized that emotions are represented in the somatosensory system as culturally universal categorical somatotopic maps (Nummenmaaa et al., 2014). Research shows the map of emotions as energy radiation in the body (Appendices, Fig.1)

The James-Lange theory of emotion observes a more profound interconnection between the mind, emotions, and body. The theory suggests that physiological changes occur before the experience of the associated emotion. In summary, emotions are derived from one's interpretation of physical sensations (Cherry, 2024).

In a 2010 study, psychologists Dr. Hilary Stokes and Dr. Kim Ward posited that quantum mechanics can be applied to understanding the universe as a whole. They proposed that all phenomena, including thoughts and emotions, can be understood as manifestations of energy as a wave with specific frequencies. These waves record and carry information in a particular form: sound, heat, or light (Stokes, 2010).

The principles of quantum mechanics demonstrate how the frequency of any wave can be modified through the superposition or interference of waves. Similarly, psychotherapy interventions can facilitate the alteration and transformation of thoughts and emotions.

## Clinical Significance

This Thesis aims to demonstrate how personality dynamics can be conceptualized as physical energy processes. This concept illuminates the fundamental nature of mental and psychological phenomena in a person, including culture, intelligence, memory, emotions, personal boundaries, identification, and interpersonal and group relationships. Consequently, greater clarity and transparency are facilitated for psychotherapeutic practice.

This Thesis aims to provide a simplified and transparent representation of personality processes. The interpretation of personality dynamics as a physical energy process offers a potential shortcut approach to the most complicated cases of depression, anxiety, ADHD, procrastination, burnout, bipolar or autistic disorders, and relationship issues such as developmental C/PTSR, codependency and attachment, addiction, and other disorders. An understanding of a personality's energy patterns can have a profound impact not only on the personal development and relationship level but also on the workplace and other social dynamics.

Emily Marsh from the T-three Consulting Company in Birmingham, United Kingdom, introduced her research on high- and low-energy personalities, in psychological terms, extroverts and introverts. The study presents the three sub-facets of an individual’s energy score: vitality, sociability, and adaptability (Marsh, 2024).

The importance of understanding and appreciating natural and cultural differences in individuals was emphasised, with the objective of not only increasing sales in the organisation, but also fostering a more comfortable and productive work environment for each personality type. This approach can be used successfully in psychotherapy, including group therapy and relationship training in various social settings.

The fundamental axiom apocryphally credited to management consultant Peter Drucker, that "culture eats strategy for breakfast," is the concept of compatibility (Whitzman, 2016). This concept highlights the importance of the human element in any organizational planning. A robust culture is naturally resistant to most changes, both internal and external.

If the transformation does not fit the existing culture, it will fail unless it is managed by incorporating cultural elements that fit the existing culture. This is the most important point in psychotherapy: the ability to understand the patient's cultural and social context in order to determine the appropriate therapeutic techniques.

A comprehensive understanding of the legalities of energy work, including capacity, voltage, resistance, flow, field, induction coupling, etc., enables practitioners to comprehend the neurobiological and somatic response that will result and see the compatibility between chosen therapy methods and the patient's cultural field.

This holistic approach gives practitioners an advantage and the ability to predict the results of therapy work with a high degree of accuracy, helping them apply the best suitable methods according to the individual energy patterns of the patient. It will also help clients more easily understand their own processes and give them a better chance to connect to the core resources in any life situation.

**Key Terminology**

Psychotherapy and psychology as a science are relatively young compared to other established studies such as biology and physics. Practitioners do not clearly define many terms used in psychotherapy. One of the tasks of this dissertation is to clarify psychological terms by using well-established terminology from physics and mechanics, chemistry, physiology, etc.

The processes, laws, and terminology of physics employed in this Thesis are those of the most elementary nature. The Thesis deliberately avoids discussing quantum physics

or other complex concepts. The intention is to keep the presentation simple and to the point.

The majority of the terminology employed in this work is derived from the common knowledge base typically encountered at the GCSE level, which can be readily accessed in open-access sources like Knowledge Hub (2022) and Mastering Essential GCSE by the University of Cambridge (IsaacPhysics.org, 2025). The simplest and most illustrative approach to identifying and defining personality dynamics as energy processes is to consider electromagnetic interactions. This Thesis employs terminology and descriptions derived from atomic structure, potentials, charge, force fields, and other energy processes in their physical sense and applies them to illustrate the relevance of these concepts to human activity. As a preliminary step to establishing a common ground for discussion, it is essential to define specific terms used in the Thesis, such as energy, personality dynamics, consciousness, ego, and psycho-emo-somatic paradigm. These terms will be explained in more detail later in the main body of the Thesis.

### *Energy*

Energy is the essential property of matter that drives everything in the universe. Its existence and characteristics vary depending on the form it takes. The processes of chemical reactions, electricity, work, and life itself can all be defined in terms of energetic activity (Chaisson, 2001; Morowitz and Smith, 2007; Smil, 2008). Physics defines energy as the amount of activity that can be applied to an object. Applied to the dynamics of personality, the term is used to describe human activity and work, according to the “Physics” by Aristotle. One of the most important properties of energy for this Thesis is the conservation of energy (Aristotle, 2002, Ellrod, 1982).

The law of conservation of energy states that energy cannot be created or destroyed (Feynman et al., 1965) but can only be changed in form (Solomon, 1985). From the moment a human being is conceived to the moment it dies, energy is an essential source of life, starting from the particles of the physical body to the waves of mental processes. There is no life without energy. Hence, in this Thesis, energy is understood

directly as we know it from modern physics, chemistry, and biology. Energy (from the Greek ἐνέργεια) is the continuous and transformational process, a single measure of the movement and transition of matter from one form to another, and is the main building element of matter that makes up every object in the world. There is no mass without energy.

### *Matter*

The term “matter” represents one of the fundamental concepts in the fields of physics and chemistry. The current Thesis defines matter as a substance that has mass and occupies space by having volume (Penrose, 1991). For example, how it is known in atoms. Typically, atoms can be described as a nucleus of protons and neutrons, surrounded by a “cloud” of orbiting electrons that “take up space” (Davies, 1992; Hooft, 1997). This is only partly true, as science has now discovered that subatomic particles and their properties are governed by their quantum nature, which means that they can behave like waves as well as particles, and they do not have well-defined sizes or positions (Feynman, 1965).

In terms of particles and structure, as a structural element directly related to matter and mass, energy can be explained in Einstein’s formula $E=mc^2$, which expresses the fact that mass and energy are the same physical entity and can be transformed into each other. This Thesis asserts that the human body is pure energy. On the other hand, at the same time, energy as a movement can be best described as a charge between two potentials: $E=qV$. The mediators of this electromagnetic process of energy movement are photons, which facilitate the transfer of charge between particles/objects/bodies. The charge is the fundamental unit of atomic behaviour and is responsible for the generation of movement, action, and dynamics. This Thesis proposes that this encompasses personal dynamics.

### *Charge*

The charge represents a fundamental physical property of matter that causes it to experience a force. It is another key concept used in this Thesis with the aim to describe personality dynamics as energy processes. The term ‘charge’ is a widely used concept in psychology, particularly concerning emotions. In essence, the charge is an elementary amount of energy (quantity of electrons) that passes from one body/object/point to another (Comay, 1991). Charge exists behind any energy process. One of the main principles of charge is that it is a conserved quantity. It means that, same as energy itself, charge can neither be created nor destroyed. It can, however, be transferred from one body to another using conduction and induction.

Conduction is the process of charging an object by friction (rubbing). The induction method is a process by which an object is charged without direct contact with another charged object. It should be noted that either method entails a transfer of electrons from one body to another. An interaction of electrons and protons influences the charge to be positive, negative, or neutral. An atom is considered neutral if it has the same number of protons and electrons, resulting in a neutral charge. An atom with a higher number of protons than electrons is said to be positively charged, while an atom with a higher number of electrons than protons is considered negatively charged. An accumulation of electrical charge can increase the voltage—the difference between two potentials.

### *Potentials*

The term “potential” is widely used in different scientific fields and is also commonly used to describe human potential. In physics, the charge between two potentials, potentials of action and rest, creates two basic forms of energy: potential and kinetic. Generally, the term “potential” refers to a currently unrealised ability, combining the potential of action (ability) and the potential of rest (currently unrealised ability) as an

undivided holistic process (Stassun et al., 2011). In physics, a potential is a field defined in space. Many important physical properties can be derived from it (Agamben, 2013).

In the present Thesis, many mental, emotional, and somatic processes will be explained using the physics of two potentials. The principle of two potentials can be observed in a multitude of processes, including contraction/expansion, inhaling/exhaling, cold/hot, electric/magnetic, and also as yin/yang principles, where yin represents a potential of rest and yang represents a potential of action.

In traditional Taoist philosophy, the concepts of Yang and Yin are used to describe two fundamental forces or energies that are believed to exist in all things. Yang is associated with the quality of force or power, while yin is seen as the quality of receptivity and magnetism. The two forces are in a constant state of dynamic interplay: Yang is pushing, and Yin is pulling. This interaction leads to a transformation of both forces, resulting in the creation of a new force and field. The same dynamic can be observed in electromagnetism when the force creates the magnetic field, which in turn creates another force and field. Both elements, force and field, are essential for the propagation of energy. Neither can be expressed independently of the other.

In 1969, the world's leading journal specialising in nuclear fusion published a report on research conducted at Lawrence Radiation Laboratory in California, USA (Moir and Post, 1969). The research concerned the Yin-yang minimum- |B| magnetic-field coil. In addition, in the September 2020 issue of the International Journal of Electrical Engineering and Education, the Yin-Yang principle was suggested with regard to its applicability to the teaching of electromagnetic fields and waves (Zhang et al., 2020).

In biology, the interaction between two potentials results in the movement of energy in cells and systems of the body, for example, in neurons. The relatively static membrane potential of quiescent cells is called the resting membrane potential (or resting voltage), as opposed to the specific dynamic electrochemical phenomena called action potential and graded membrane potential.

In the field of information technology, the potential of a given system is represented by the binary digits “1” and “0.” The combination of these two digits represents the movement of potential within a transmitted information stream, which is encoded into a symbol. Any given entity, whether a word, a colour, a temperature, a meaning, or a sound, can be represented by a unique digital sign. The combination of the two symbols “1” and “0” represents the movement of energy in the form of an information flow.

In contemporary narrative the concept of potential is employed to denote the capacity to undertake an action or movement, including those occurring within the body. To illustrate, the following example is provided: “Driven by one’s desire.” This expression denotes the capacity of an energy charge, or desire, to physically propel and direct specific personal processes. The phrases “being moved by the song,” “moving on with life,” “a touchy subject,” and “losing one’s bearings” are examples of this phenomenon. Such expressions demonstrate the inner dynamics of personality.

Human potential is widely recognised as the capacity to improve oneself through actions (learning or practicing something) to reach the limits of their ability to develop their aptitudes and skills. In turn, these developments raise the energetic charge, increasing the capacity for new possibilities, and so on. The belief that individuals can live happier and more fulfilling lives by realising their full potential is built into the concept of human potential (Vernon, 2009).

One view of personal potential is that the full potential of every human being is inherent within them, pre-born, perhaps even at conception (Richardson, 2002). Other definitions include both internal and societal influences (Gasparokova et Al., 1994; Chen and Chen, 2011). From the perspective of physics, the development of personal potential through societal influences can be argued to be explained by the transfer of charge by the induction method. Regardless of the circumstances, the potential of an individual plays a significant role in personal development and personality dynamics.

*Personality*

This Thesis employs a broadly defined understanding of personality. According to the Encyclopaedia of Human Behaviour in Reference Module in Neuroscience and Biobehavioral Psychology (2012), a personality trait can be considered an internal disposition that influences how a person thinks, feels, or behaves across a variety of situations (Budaev and Brown, 2011). The relationship between psychopathology and personality traits (sometimes referred to as temperament) is well established at the superficial behavioural level. However, this is insufficient for a more profound comprehension of personality dynamics. A neurobiological perspective on personality traits may give a key to understanding the biological basis of affective disorders. A personality trait is a psychological concept defined as a qualitative, relatively stable description of a set of unique behavioural patterns exhibited by an individual in association with their internal motivations, emotions, drives, thoughts, and so forth.

The formation of personality is influenced by a 50/50 ratio of genetic and environmental factors (Kropotov, 2016). Furthermore, personality traits are invariant across European, North American, and East Asian samples, which suggests that these traits possess biological universality. In addition, personality shows stable differences between individuals and changes in activations within individuals over time and across situations. A neurobiological approach can account for these processes and contribute to an integrated view of personality (Tops et al., 2021).

The energy approach described in this Thesis offers a deeper understanding of personality. It provides a more profound and intricate perspective on personality and its dynamics by examining fundamental energy processes that influence biological reactions. This is achieved by decomposing highly sophisticated psychological processes into a series of concise and fundamental energy mechanisms. Some authors suggest that the individual as a person starts with a realisation of self and the ability to subjectivity and intersubjectivity (Taylor, 1989; McGrath, 2024). Other authors define a person as an entity with the moral right of self-determination (Anderson, 2008).

It is frequently acknowledged that a person is characterised by intelligence, self-awareness, and consciousness. However, the specific qualities and levels of each that are required for a person to be considered as such remain undetermined. For example, essential self-awareness develops between 15 and 18 months when infants compare their face and body movements with their image in the mirror (Mitchell, 1993; Rochat, 1995). This illustrates the initial stages of personality formation.

This Thesis examines the concept of personality as a holistic process undergoing constant change and transformation. This process incorporates the core dynamics (somatic and neurobiological intelligence), the self-organised functionality (emotional, cognitive, and social intelligence), and the force field activity (culture and collective intelligence) in a manner analogous to any other body, object, or particle. In this respect, it is reasonable to define personality as a spectrum that ranges from a basic biological consciousness to a spiritual realisation, from a basic self-awareness to a fully self-organised personality. Nevertheless, the development of personality is contingent upon the initial activation of the brain, which subsequently evolves into more complex processes.

The objective of this Thesis is to investigate cerebral activity, with a particular focus on subcortical structures that are intimately connected to the formation of prototypical affective states. These states influence our behaviour and alter our field of consciousness, giving rise to specific feelings or moods—the first form of self-orientation in the world. Such affective systems play a central role in forming personality and developing all other, more complex, psychological dynamics.

On the other hand, personality dynamics is an umbrella term that encompasses processes and mechanisms that are involved in the existence, development, and manifestation of personality (Kuper et al., 2021). In other words, using S. Freud's stylistics, personality dynamics is known as "psychic energy distributed to the id, ego, and superego" (Corey, 2009). In the present Thesis, the understanding of personality dynamics is expanded to encompass the psychic, emotional, and somatological dimensions of the individual, which may be abbreviated as PES (psycho-emo-somatic).

### *Psycho-Emo-Somatic Dimensions*

The term “psycho-emo-somatic” was coined by clinical psychologist and professor Dr. Stephano Sabetti (2001) from Boston University, USA. This Thesis will employ the term further to demonstrate the complex nature of personality dynamics.

The term “psycho-emo-somatic” is used to describe a set of specific processes:

1. Psycho - represents a cognitive consciousness and all the processes related to mental activity, including self-awareness, identification, and ego states.
2. Emo - represents reflections and reactions to inner or outer stimuli: affects, emotional states, and feelings.
3. Somatic - is a body-related process, including neuro-biological sensations, felt-sense, bodily feelings (like pain or heat), impulses, and movements.

#### *Consciousness*

There is an obscure correlation between psyche, mental energy, ego, intellect, intelligence and consciousness. A number of scientists espouse the view that consciousness can be better understood from an energetic perspective.

For instance, Dr. David Skrbina (2001) from University of Bath, United Kingdom, defines consciousness as an omnipresent phenomenon intrinsic to the context of all matter. Dr. David Chalmers (1997), an Australian philosopher specialising in the philosophy of mind also posits that consciousness represents a fundamental principle of matter.

Dr. Chalmers posits the existence of multiple forms of consciousness, the most fundamental of which is a rudimentary "proto-consciousness" intrinsic to every quantum particle, which stands in contrast to the conventional experience of consciousness. In the context of the present argument, this basic raw consciousness complies with the core part of personality. In essence, core consciousness can be defined as a capability

to organise matter - the function of energy itself. Where is energy, there is consciousness.

As any core has a field, the consciousness process also can be seen as a unity of two qualities: one is innate and given at birth, and another which evolves through life experiences. There are not two different processes, but different sides of the same phenomenon. The modern scientific studies of consciousness have identified a number of different types, but for the purposes of psychotherapy, cognitive consciousness is of particular importance. This level is associated with the concept of the self and mind.

R.Pepperell (2018) defines cognitive type of consciousness as the capacity for self-awareness and awareness of the external environment, which is particularly pronounced in humans and has many levels. The best way to view the levels of mental consciousness is through the prism of ontogenetic development, as each level of consciousness evolves into intelligence.

*Intelligence*

In essence, intelligence can be defined as a practical application of consciousness in everyday life - a competence to organise matter and self in the surrounding environment. Same as consciousness, intelligence has levels and types: from the cell intelligence to the swarm and intelligence. Consciousness can be defined as a perception of the underlying meaning or purpose of an action (the “What For” meaning), whereas intelligence can be defined as a perception of the means or resources required to achieve a desired outcome (the “How” meaning).

If consciousness is conceptualised as the recognition of the self and its identity, then intelligence can be understood as the capacity to utilise the self's resources to adapt to the environment, to achieve a desired outcome, and so forth.

It may be posited that consciousness represents the core potential of a person, while intelligence can be viewed as the kinetic field that emanates from it.

In the terms of this thesis Intelligence in personality dynamics can be recognised on all levels: biological (including somatic), neurological (mental), psychological (emotional), cognitive and collective.

*Ego*

In this thesis, unless otherwise specified, the term "ego" is used as a collective encompassing of all ego parts, including the id, ego, and superego as defined by S.Freud. This thesis argues that ego does not belong to the innate and inbuilt core processes of personality dynamics. Rather, ego can be seen as an essential part of the mind with its mental intelligence and psyche consciousness, which develops and changes through life. The same ideas are evident in Jean-Paul Sartre's work (1937), that the concept of the ego is not an absolute or transcendental entity; rather, it can be understood as a structural element within the cognitive consciousness.

Ego is the main aspect of contemporary clinical psychotherapy. Functions of ego are: filtering, controlling, regulating, and protecting the psyche of an individual.

The central objective of this thesis is to elucidate and expound upon the aforementioned terminology in the context of energy processes. This endeavor is founded upon a meticulous research and case study approach, employing a systematic methodology to ensure the rigor and validity of the analysis.

# II. METHODOLOGY OF RESEARCH

This study aimed to develop a new theoretical framework and conceptual model of energy processes (e.g., regulating mental and emotional energy). The primary objective of this Thesis is to explore the complex psycho-emo-somatic dimensions of human experience by drawing parallels with the fundamental principles of physical and chemical energy processes.

The selected methodology and principles used in this Thesis are essential for making revolutionary discoveries in understanding of psycho-emo-somatic processes and psychotherapy. The methodology incorporates interdisciplinary insights to address the complexities of personality dynamics.

Central to this study is an exploration of personality dynamics, including the essential traits of consciousness and intelligence, which are the cornerstone of psychotherapeutic theory and practice. The research seeks to illuminate how objective energy processes underpin key aspects of personality dynamics, such as cognitive functions, personal growth, and the nuanced interactions that transcend individual experiences, often called transpersonal interaction. That intends to push beyond the contemporary limits of modern neuroscience. This study fills essential gaps in the knowledge by providing a more comprehensive and fundamental perspective.

The Thesis describes a novel framework that deepens our conceptual understanding of personality and provides a foundation for future investigations into the ongoing interactions between energetic dynamics and human development. This study was eager to integrate different fields of science. The selected approach offers a more detailed and holistic perspective on the complex factors that shape human characteristics. Integrating psychotherapy, psychology, neurobiology, chemistry, and physics make a big difference in understanding energy processes in personality dynamics.

## 1. Approaches Of The Research

Studying energy processes in personality dynamics involves examining how individuals manage, direct, and experience energy on psycho-emo-somatic dimensions within their personality structure and behaviours. This domain intersects with psychology, neuroscience, and behavioural sciences.

Current Thesis research employs knowledge and terminology from physics, biology, and chemistry to explore core energetic processes in psychological terms of personality dynamics. Theoretical frameworks, qualitative approaches, and literature reviews in the aforementioned disciplines have facilitated the development of this field.

### 1. Literature Review & Theoretical Frameworks

The objective of the literature review was to facilitate an understanding of extant theories and findings. The Thesis incorporates reviews of fundamental psychological theories, including Freud's psychodynamic theory, Jung's concept of psychic energy, self-determination theory, and more recent and contemporary views on psychotherapy. It facilitates exploring research on energy management models, including ego depletion and vitality.

Many distinguished experts in this field have substantially contributed to advancing this discipline. These include Dr. Francine Shapiro the inventor of the EMDR method in 1987, Dr. Robert Miller - the ImTT in 2011, Dr. Richard Schwartz - the IFS, 1980s, Richard Bandler and John Grinder - the NLP in 1975, and Garyaev, P.P. - the Linguistics Wave Genome method in 2009.

The Theoretical Frameworks method enabled the study to be grounded in established frameworks, including psychodynamic theory, by investigating unconscious energy dynamics and energy management theories by exploring recovery, depletion, and renewal concepts. The study aligns with the contemporary and newly developed understanding of psychotherapy as an energetic process, as evidenced by the works of Reich and Lowen (Bioenergetics), Pierrakos (Core Energetics), Marchel (Bodynamics),

and Boadella (Biosynthesis). The study's theoretical framework uses fundamental physics principles commonly encountered in GCSE curricula, complemented by pioneering and most recent research contributions from Dr.William A. Tiller and other prominent physicists.

These methodologies have enabled a comprehensive understanding of how energy processes interact with personality dynamics, thereby providing a foundation for developing interventions or applications in clinical, organisational, and personal development contexts.

## 2. Qualitative Approach

The main objective of this Thesis was to use the qualitative approach in order to gain insights into personal experiences and subjective sense of energy processes. The research significantly impacted the terminology and conceptual framework of the Thesis. It provided a solid foundation for practical applications and highlighted its relevance to real psychotherapy work.

The qualitative approach allowed the Thesis to integrate the client's professional background in physics and engineering, which provided a foundation for comprehending the practical applications. The research methods employed included session validation and semi-structured interviews with participants to explore their perceptions of energy, motivation, and personality traits. Finally, a narrative analysis of the client's feedback, analyses, and diaries helped examine personal stories to identify energy fluctuations and personality expression patterns.

### *Reasons*

This Thesis has chosen the qualitative approach because of the subject matter and the study's objectives. The following point expresses more detailed rationales for adopting this methodological framework.

Energy processes in personality dynamics, such as motivation, vitality, and emotions, are inextricably linked to individual subjective experiences. A qualitative approach enables researchers to obtain rich, detailed narratives about how participants perceive, describe, and experience these processes. Exploring patients' own words and expressions in articulating feelings of "drain", "renewal", and "spiralling" offers insights that are not easily quantifiable.

Human energy processes are multidimensional and influenced by a combination of factors. In the present Thesis, the qualitative approach was selected for its ability to supervise the complexities of personality dynamics, providing a basic understanding and models of the interplay between these factors.

A crucial aspect of this research is the identification of themes such as "inner conflict," "self-regulation," or "transcendental energy" through interviews or focus groups.

Qualitative methodologies allowed the study to generate theoretical concepts supported by conventional and unconventional documentation of other research and repetition in patients' expressions. These methods permit researchers to construct frameworks grounded in real-world experiences, which can subsequently be tested or refined through quantitative methods.

The central objective of the present study was to develop a conceptual model that elucidates the relationship between energy processes and psycho-emo-somatic dynamics involving psychotherapy practices.

The present Thesis used qualitative methods to accommodate novel insights that emerged during the research process. The capacity of qualitative methods becomes vital when studying an abstract concept like energy processes, where the research direction might evolve based on participants' responses.

Another significant ability of qualitative methods is adaptability, as shown in modifying interview questions as new patterns or themes emerge during the initial analysis phase.

A comprehensive understanding of energy processes within the field of psychology frequently necessitates an emphasis on how individuals interpret their energy fluctuations, the mechanisms they employ for coping, and their relationship to

personality dynamics. Qualitative research prioritises the process of meaning-making, a central tenet of this field of enquiry.

This approach involves systematic observation and analysis of how individuals interpret the relationship between physical energy (e.g., fatigue) and mental states such as motivation or creativity. Energy processes are influenced by various contextual factors, including personal history, cultural background, and environmental conditions. The use of qualitative research methodologies is imperative to facilitate a comprehensive analysis of these contextual influences.

The present study examines how cultural attitudes towards rest and productivity shape perceptions of mental energy. Energy processes are inherently dynamic and may vary across different timescales and contexts. Qualitative research methodologies, such as longitudinal interviews or diary studies, facilitate the capture of these fluctuations and their significance to participants. The present study used journaling and session recordings to track participants' energy levels regarding daily tasks and stressors.

The Thesis used the qualitative approach because it is the best instrument to explain a fundamental and holistic understanding of energy processes in personality dynamics. This depth of insight is particularly valuable when studying abstract, complex, and subjective phenomena that cannot be reduced to numerical data or standardised measurements.

### *Methods*

This study aimed to construct a novel theoretical framework and formulate a conceptual model of energy processes (e.g., the regulation of mental and emotional energy). To this end, the present Thesis employed the Grounded Theory method.

#### 1. Grounding Theory Method

The Grounded Theory approach enables the formulation of novel theories or models based on the data itself instead of the conventional testing of pre-existing theories. This

approach is particularly well-suited to comprehending complex phenomena, such as energy processes, where existing frameworks may prove inadequate.

Specifically, the Grounded Theory Method is a highly effective approach to developing models that elucidate the intricate interplay among diverse energy dynamics (i.e., cognitive, emotional, and physical) in the context of personal growth.

As a qualitative research methodology, the Grounded Theory Method can emerge new data from previously existing data, forming it into a new theory. It was beneficial for studying psycho-emo-somatic dimensions, where the complexity of human behaviour and energy processes was poorly understood and misconstrued by existing theories.

The Thesis employed the Grounded Theory Method approach to explore how people experience, manage, and conceptualise their psychological and emotional energy. These ways relate to various aspects like motivation, stress, mental fatigue, and allocating cognitive resources, to say the least.

The subsequent section delineates how the Grounded Theory Method was implemented in the present research and the steps taken to saturate and report the theory.

**Steps Of The Grounded Theory Method**

1. Data-driven theory development: The Grounded Theory helped with the development of a theory to be guided by the collected and repetitive data itself and not initiated with a hypoThesis.

The researcher collected qualitative data, predominantly through interviews, observations, and open-ended surveys, and utilised this data to identify patterns and categories.

The researcher instructed the participants to describe their psycho-emo-somatic experiences in words and expressions. The participants were chosen specifically in two groups: the first group without a professional background in physics and engineering and the second group with a professional background. Participants of both groups did not have any special education in psychology. Both groups were able to describe their bodily sensations and emotional feelings in terms of common physics. These individuals

demonstrated an ability to conceptualise their subjective inner experiences within the physics and electromagnetic theory framework.

2. Inductive process: All patterns, concepts, and theories emerge from the raw data. At the commencement of research, a broad question is posed, which is then progressively narrowed down based on the patterns identified during data collection and analysis.

3. Constant comparative method: Data collection and analysis were concurrent processes. The research involved continually comparing new data with existing data, refining categories, and building theory on an iterative basis.

4. Coding and categorising process: The analysis included coding the data into categories and analysing for patterns. After collecting initial data, the researcher several times refined and amended the new understanding as additional data was collected.

5. Developing the Theory: The researcher collected and analysed additional data and synThesised findings into a coherent theoretical framework.

6. Refining the Theory: The researcher amended the emerging theory to see clear patterns and theory saturation. The categories and relationships identified were deemed comprehensive, and no further insights were forthcoming.

7. Theoretical saturation: The theoretical saturation reached the point at which no further data could be collected and added to the existing theoretical framework. At this juncture, the research transitioned from data collection to the final stages of theory development and conclusions. It was supported by figures, models and drawings for a compact overview of the research's outcome.

8. Theory Reporting: The final result of the Grounding Theory Method was a deep, informed understanding of the energy processes in the context studied. This understanding allowed the researcher to offer new theoretical insights and practical implications for psychology.

**Application of Grounded Theory Method**

In psychology, Grounded Theory has proven to be an effective approach to studying processes, particularly in novel or under-researched areas. The present research study

has employed several potential methodologies to explore the application of the Grounded Theory Method.

The present research study explores how individuals allocate their mental energy throughout the day, experience fatigue, or engage in emotional entanglement that requires significant psychological resources. The use of Grounded Theory has facilitated the identification of the factors that influence how people recharge mentally or manage cognitive load.

The employment of the Grounded Theory Method supported the investigation of how individuals experience motivation as a form of "psychological energy" that propels their behaviour. The research explored how motivation is perceived, fluctuates over time, and the factors influencing an individual's life energy - the drive to pursue goals. The analysis yielded insights into the distinction between intrinsic and extrinsic motivation.

Grounded Theory constitutes a methodological framework that facilitated the exploration of the experiences of working patients regarding energy depletion and burnout over time. The present study identifies several key factors that contribute to burnout and coping mechanisms that assist individuals in maintaining energy levels in challenging work environments.

The present Thesis explored energy processes in personal dynamics and interpersonal relationships, with a focus on their manifestation in various contexts, including therapeutic sessions, professional environments, friendships, and family dynamics. The research methodology involves examining how individuals allocate, receive, or safeguard their emotional and psychological energy through social interactions.

In summary, the Grounded Theory Method provided this Thesis with a practical framework for uncovering new insights and building the theory rooted in real-world experiences, making it highly valuable for studying complex psychological phenomena like energy processes.

The research utilised a combination of the Grounded Theory Approach and theme- and discourse-based methods.

2. Theme-Based Methods

Theme-based analysis helped the Thesis recognise and emerge patterns and themes in the collected data. In the context of the current research, the study focused on the context of interview transcripts, with themes such as "energy sources" or "strategies for energy recovery" being explored.

Framework analysis employs a structured framework to map themes against predefined research questions or concepts. For example, some energy processes were organised into categories such as "inner impulses," "energy loss", "stress," and "resistance."

Grounded theory involved developing new theories based on emergent themes from the data, which helped construct a model of how emotional and physical energy interact during periods of stress.

Phenomenological analysis focused on participants' lived experiences and how they describe energy states. This approach helped to identify themes in participants' narratives concerning their recognition of psycho-emo-somatic patterns and mental clarity during mindfulness exercises.

3. Discourse-Based Methods

The present Thesis also employed discourse-based methods to support the theory and examine how language and communication shape the understanding of energy processes.

Discourse Analysis: This method examined the linguistic and communicative methodologies employed in energy-related discourse. The focal points encompassed the analysis of tone, context, and framing of these discussions. This study aimed to analyse how individuals describe and explain their energy processes inside themselves and during interpersonal interactions.

Narrative Analysis: This process helped to learn about individuals' narratives regarding their energy experiences. The narratives were analysed to glean insights into the personal and cultural meanings embodied within. The analysis focused on a participant's account of recovering from burnout.

Conversation Analysis: The focus here was on the structure and flow of conversations, particularly on how participants engage in discourse on energy-related subjects. The focus was on the back-and-forth dialogue during group therapy sessions on managing energy.

Critical Discourse Analysis: This involved examining power dynamics, social norms, and ideologies reflected in energy discussions among colleagues and interdisciplinary professionals. The researcher examined societal expectations concerning productivity and energy levels in professional settings.

Rhetorical Analysis: The present study focused on the use of persuasive language in depicting energy processes. Specifically, it analysed motivational speeches designed to overcome mental fatigue.

4. Combination Approaches

The present studies integrated multiple methods to gain a comprehensive understanding, combining grounding, thematic, and discourse-based analyses to validate findings.

Theme analysis was used in the present Thesis to identify patterns, discourse analysis to understand their contextual meanings, and grounding theory to develop a new understanding of psycho-emo-somatic dynamics from the energy processes perspective.

The combined approach enabled the Thesis to understand in more detail how individuals experience, describe, and navigate energy processes within psychological contexts. Furthermore, it facilitated the identification of novel, unconventional research methods and new methodologies for investigating energy processes in personality dynamics.

The current Thesis has grounded and gathered many aspects of energy processes in psychological terms, thus enabling a better and more comprehensive understanding of this complex phenomenon.

## 3. Unconventional Methodologies

The present Thesis explores a specific novel understanding, focusing on psycho-emo-somatic dynamics from a physical energy point of view. This understanding became possible due to the methodology, which includes literature research and theoretical framework methods, in the context of the broader research project. The project as a whole opens up new possibilities for exploration in this field.

In the field of energy processes in psychology, unconventional methodologies frequently encompass innovative techniques that facilitate interdisciplinary collaboration between psychology and other domains such as neuroscience, physics, and physiology.

These methods aim to explore the multifaceted nature of energy as it relates to mental, emotional, and physical processes. The following section details some of the less common methodologies of particular interest in the present Thesis.

### Biophotonic Emissions Measurement

This method measures ultra-weak photon emissions (natural light emitted by living organisms) as an indicator of cellular energy activity and metabolic processes. Researchers hypothesise that changes in biophotonic emissions may correlate with psychological states like stress, relaxation, or mental focus.

This measurement helps to explore how energy dynamics at the cellular level might reflect or influence psychological states. Investigating how meditation or stress impacts biophotonic emissions as a potential marker of mental energy regulation.

### Physiological Synchronisation Studies

The studies examine the synchronisation of physiological markers (e.g., heart rate, breathing patterns) between individuals to understand how energy processes operate in social or interpersonal contexts.

Applied in group therapy, dyadic interactions, or team performance studies are helping to explore shared energy dynamics. Studying how heart rate coherence between participants during group mindfulness sessions reflects shared emotional or energetic states.

### Neuroenergetic Studies with fNIRS

These studies, often also called Functional Near-Infrared Spectroscopy, help analyse brain areas to learn about neural energy expenditure. They are portable and less invasive than fMRI, making them suitable for dynamic, real-world experiments.

This method is used to explore how mental tasks, fatigue, or emotional regulation correspond to localised energy use in the brain. Monitoring neural energy depletion during prolonged cognitive tasks and recovery through rest or relaxation techniques.

### Thermodynamic Analysis of Cognitive Load

This approach applies thermodynamic principles, such as entropy or energy conservation, to model how mental energy is distributed and consumed during complex cognitive tasks.

It helps quantify the "cost" of cognitive efforts regarding psychological and physiological energy expenditure. Developing a thermodynamic model to analyse how multitasking increases mental entropy and reduces task efficiency.

### High-Resolution Wearable Technology

Wearable devices with advanced sensors (e.g., galvanic skin response, heart rate variability, accelerometers) tracking real-time physical and emotional energy fluctuations during various activities. Offers insights into how physical activity, stress, or rest cycles correlate with perceived mental energy.

Combining wearable data with self-reported energy levels to identify patterns of energy renewal or depletion in daily life.

### Energy Dynamics Through Interdisciplinary Computational Models

Computational simulations inspired by physical systems, such as fluid dynamics or electrical circuits, are used to model energy processes in psychological systems.

These methods help to explore how mental energy flows, dissipates or accumulates in response to cognitive or emotional challenges. Creating a simulation where emotional "energy leaks" are modelled as resistances in an electrical circuit, influencing overall system efficiency.

### Thermal Imaging for Emotional and Cognitive Energy States

Thermal cameras capture skin temperature variations linked to autonomic nervous system activity, providing a non-invasive way to measure stress or relaxation states.

It helps visualise how energy processes manifest physically during emotional regulation or cognitive challenges.

### Energy Mapping Through Psychophysiological Diaries

Participants are documenting their subjective energy levels, emotions, and activities using diaries. Often, it is paired with objective physiological measures (e.g., heart rate or sleep patterns) collected via wearables. It provides a comprehensive view of the interplay between subjective experiences and physiological energy dynamics.

This method helps to identify patterns where reported mental fatigue aligns with reduced heart rate variability or poor sleep quality.

### Mind-Body Interventions with Real-Time EEG Feedback

Combining biofeedback or neurofeedback with interventions like meditation, yoga, or mindfulness to monitor and regulate energy states in real time.

It enables participants to learn how to optimise their mental and physical energy through direct feedback loops. EEG biofeedback not only helps researchers to explore the body-mind connection but also teaches participants how to sustain focus and manage mental energy during high-stress tasks.

### Study of Energy Flow in Transpersonal Psychology

Investigating energy exchanges in experiences that transcend individual boundaries, such as spiritual practices or peak experiences, often combining qualitative interviews with physiological measurements.

This method was used to explore how energy processes contribute to states of transcendence, personal growth, or collective synergy.

The methodologies mentioned above enrich modern research and offer an insightful perspective in traditional psychological research. They offer innovative tools to explore the complex, delicate, and often misunderstood nature of energy processes in personality dynamics. They often require advanced technology, interdisciplinary collaboration, and creative, experimental designs to yield new insights into this intricate domain.

This Thesis will present these and other methods of studying energy processes in personality dynamics as employed by scientists in different fields. The subsequent sections will delineate these methodologies in greater detail.

## 3. Data Collection & Analyses

The data collection process for this Thesis has involved specific methods that facilitate the capture of the rich, subjective experiences and contextual dynamics of individuals' interactions with energy-related phenomena.

### 1. Methods of Data Collection

The present Thesis employed the following methods:

#### In-Depth Interviews

The objective of this study was to gather detailed narratives about personal experiences, perceptions, and interpretations of energy processes in psychological contexts.

The researcher selected a special group of participants: patients, colleagues, and other professionals in the fields of physics, chemistry, and engineering.

The interview schedule includes questions exploring experiences of mental fatigue, energy renewal, emotional states, and their impact on cognition and behaviour. Participants received questions such as: "Can you describe the situation and triggers when you felt like a panic attack? What observations did you make about your thoughts, emotions, and bodily sensations during that period?"

### Focus Groups

This study aimed to explore collective perspectives on energy processes and the influence of social dynamics on energy levels.

The researcher facilitated group discussions in which participants shared their experiences and insights. The focus group facilitation involved observing how participants describe energy flow during collaborative tasks or social gatherings.

The following analysis of these interactions identified shared patterns. The main focus was on the role of the environment, interactions and social settings in regulating energy levels.

### Participant Observation and Observation of Therapy Sessions

The objective of the present study was to observe behaviours and interactions in real-life settings where energy dynamics are likely to be apparent. The researcher participated in various environments, including workplaces, therapy sessions and mindfulness retreats, to witness and learn how individuals manage their energy processes. The main focus was observing individual, group and couple sessions where participants engaged in interventions, such as mindfulness, feedback, and somatic work. It became evident that verbal and non-verbal cues indicated apparent shifts in the energy flow when observing body language and voice tone during moments of high stress in a workplace.

Field notes were used to document physical, emotional, and behavioural indicators of energy processes.

### Diaries and Personal Journals

The objective of this study was to capture participants' self-reported experiences of energy levels over time in their natural environment. Participants were instructed to maintain a diary through mobile phone applications or handwritten diaries to record daily observations of their energy levels related to noticeable significant events, emotional states, and coping mechanisms.

The specific focus of diary entries was to reflect on and explore life experiences and specially organised activities, like meditation and lofi music sessions. Participants noticed minor and significant changes in body and mind energy levels. Participants reported, for example, how a challenging conversation depleted their energy while a walk in nature or talking to supportive people rejuvenated them.

### Case Studies

This study aimed to provide an in-depth exploration of individual experiences with energy processes in psychological contexts. The research selected participants based on their unique or particularly pertinent experiences and their ability to translate their emotional states and dynamics into physics and electrical engineering terminology. A detailed theory emerged by combining data from multiple sources, including interviews, observations and diaries.

### Thematic Analysis of Narratives

The objective of this study was to analyse pre-existing narratives to gain insights into energy processes in personality dynamics. A comprehensive review was conducted on scientific literature, open-source narratives, and social media platforms to identify and examine the themes of energy-related experiences expressed in different forms.

### Creative Expression and Symbolic Data

This study aimed to explore non-verbal representations of energy processes through creative mediums. Participants were invited to articulate their experiences through body

movement, drawing, painting, or metaphor. The analysis focused on the symbolism and patterns present in these creative outputs.

### Reflexive Interviews

The objective was to facilitate participants' active involvement in interpreting their life experiences, which could be felt and interpreted in terms of physical energy flow.

The researcher conducted interviews where participants could reflect on earlier data, such as diary entries or energy maps/drawings.

Participants explained the context and meaning of fluctuations in their energy logs and how they experienced energy charges in different situations.

### Longitudinal Qualitative Studies

The objective of the data collection was to track changes in participants' energy processes and evaluate the practical benefits of psycho-education, specifically the use of knowledge of physics energy processes. The study spanned five years, starting from 2019 to 2024, of individual and group therapy and psycho-educational webinars and videos. The methodology entailed using repeated interviews, diary entries, or observations to document the evolution of energy processes in response to life events or interventions.

## 2. Criteria of Data Collection

The important part of this research was that these had to be credible and quality. This process was facilitated through certain selection criteria outlined further below, for extracting relevant data from other sources.

### Relevance

The data utilised in the present study aligns with the research topic. It addresses the research questions or themes about energy processes in personality dynamics. The current study used carefully selected data from the most credible sources.

### Credibility of the Source

The present Thesis employs data from reputable journals, books, and publications that have undergone accurate match reviews to ensure the highest standards of academic integrity. The data's authorship is attributed to recognised experts with doctorate degrees or reputable professionals or institutions in psychology, neuroscience, or associated domains. The citations are presented in a citation form and can be found in the Bibliography section of this Thesis. To ensure higher credibility, Thesis sources were taken from quoted academic authors, university publications and governmental research agencies.

### Methodological Rigor

The methodology used to collect the relevant data is transparent and clearly described, free from possible misinterpretation and subjectivity. The study ensured that the original research employs valid and reliable measures to study energy processes. The research used data from studies that used multiple methods to verify more robust findings.

### Timeliness

The current Thesis draws on the fundamental principles of reputable sources, including the physics of GCSE-level and fundamental psychological knowledge. The study used older data for the historical retrospective overview and when this data provided foundational insights for the current research. The Thesis also incorporates the latest and most contemporary data from studies conducted in the last ten years to reflect current theories, practices and technological advancements in psychology and related fields.

### Scope and Depth

The comprehensiveness and precision of the data were paramount. The Thesis used theoretical frameworks, experimental findings, and case studies. This became possible when research was limited to energy processes and relevant terminology while avoiding all sorts of irrelevant ramblings on topics to the periphery.

### Accessibility

The Thesis used only publicly accessible data through institutional subscriptions, thereby ensuring compliance with legal and ethical standards.

### General applicability

The Thesis ensures population representation by collecting data reflecting a relevant population for the study. The topic of the Thesis is not explicitly connected to age groups, cultural contexts, or clinical versus non-clinical settings. The only strict population criteria relevant to the studies is the adequate cognitive health of participants, who would be able to comprehend, sense, and describe their feelings and thoughts toward the research topics. The collected data provided insights meaningfully applied to the research context to secure transferability.

### Theoretical Alignment

In terms of compatibility with frameworks, the data was ensured to align with and complement the theoretical models or paradigms employed in the research. The study also uses sources that offer novel perspectives or methodologies that enhance the understanding of energy processes.

### Quantitative and Qualitative Balance

Although the Thesis subject does not pertain to quantitative quality, there is still scope for greater methodological diversity. The Thesis utilises a range of sources, incorporating quantitative measurements (e.g., brain imaging, physiological metrics) and/or qualitative insights (e.g., interviews, narratives) concerning energy processes.

### Cross-Disciplinary Insights

The central theme of the Thesis is the representation of interdisciplinary relevance. Data from associated domains, such as neuroscience, physiology, or physics, were incorporated when such contributions offered significant insights into psychological

energy processes. The Thesis's data advances the interdisciplinary understanding of energy dynamics and terminology.

### Replicability and Citability

Data so often referenced in other reputable studies confirms the case of the Thesis. It also considers data from studies employing transparent and methodologically replicable approaches by other researchers.

### Technological and Methodological Innovations

Advanced tools were imperative for revolutionary insights and findings of the current Thesis. Cutting-edge tools described in detail in the Chapter “Unconventional Methodologies” and further in the Thesis, such as fMRI, EEG, or advanced wearables have the potential to yield unique insights. A select number of studies have employed innovative techniques to explore energy dynamics in psychological and mental processes.

### Cultural and Contextual Sensitivity

Some countries are more open to such phenomena, while others still consider them as pseudoscience. The Thesis can be especially significant for contexts and cultures which are still building an initial understanding of energy processes connected to the psychological domains.

### Limitations and Bias

The present Thesis sought to select sources that explicitly address their limitations, thereby enabling the evaluation of the data's reliability and application. The current study lacks financial sponsorships and personal agendas that can potentially bias the data. Through the rigorous methodology used to gather, analyse, and synthesise data, procedural mistakes are absent.

Applying the above mentioned criteria is instrumental in ensuring the reliability and relevance of the data incorporated, thereby establishing a robust foundation for the research endeavour.

## 3. Methods of Data Analysis

This Thesis focuses on qualitative data analysis that helps to uncover subjective, dynamic, and complex human experiences. The study applied tags (codes) to recurring themes, such as "energy charge," "stress," or "resistance." Coding was chosen as an instrument for facilitating the systematic organisation of data.

The research used methods of identifying patterns and relationships within the data to construct a comprehensive understanding of energy processes. A theoretical framework was developed to ground the observed data rather than use pre-existing assumptions.

The data analysis in this study focused on systematically examining and interpreting non-numerical data to uncover patterns, themes, and insights about human experience and behaviour.

Main Data Analyses methods used by the current research:

### Data Preparation

Audio and video recordings of collected materials were translated, transcribed and converted into text and images. This step includes verbatim transcription, capturing non-verbal cues such as pauses, laughter or tone where relevant. The researcher structured data by grouping notes and diary entries and converting them into visual materials using software such as Google Draw Application.

### Familiarisation

The researcher were analysing, comparing and choosing data, to a deep extent. This was done with the intention of identifying emerging ideas, recurring themes or engaging outliers.

### Coding

In this work, the data segments were labelled with descriptive or interpretive tags (codes) to categorise content systematically. The researcher employed the following coding types:

- Open coding: The research identified broad themes or patterns without utilising preconceived categories.
- Axial coding: The relating of categories to subcategories was used to comprehend relationships.
- Selective coding: The focus on core themes was used as a central task to the research question.

For example, the researcher used terms (codes) "potentials", "flow", "energy source", and "pressure" to formulate and demonstrate energy processes.

### Thematic Analysis

The discovered patterns (themes) were structured to identify meaningful insights.

The following steps were taken:

- Initial codes were generated.
- Themes were searched and reviewed to group the related codes.
- Themes were defined and named.
- Names of terms were explained in connection to physical energy processes.

Among others are terms like "field," "stress," "resistance," and "isolation."

### Narrative Analysis

This way of working assisted the research by bringing attention to participants' narratives and stories—how they make sense of things and arrange experiences.

The process involved in this study included stages:

- An examination of the structure, content, and delivery of narratives.
- Identifying key points, turning points, or metaphors, especially those using the terminology of physical energy processes, like electricity or coil induction examples.

This study aims to understand how individuals describe and interpret energy-related experiences. An example of this is analysing how someone narrates their journey from burnout to recovery or establishes their personal boundaries in social interactions.

### Grounded Theory

As previously mentioned, this is a method for developing theories that are grounded in the emerging data rather than or in addition to testing existing theories. This method helped the study develop new understandings of energy processes, such as how they influence psychological resilience.

The following steps were taken to facilitate this process:

- The initial concepts were generated through open coding.
- Constant comparison is used to refine categories and relationships.
- Interactivity was applied to construct a coherent theoretical framework.

The Grounded Theory Methods served to recognise and apply terms of physics to explain psycho-emo-somatic dynamics.

### Discourse Analysis

This method examines how language is employed to construct meaning and convey experiences. The focus is not limited to the content of speech but extends to the selection of words, tone, and context. The purpose is to understand how participants discuss energy processes and how these processes reflect broader cultural or social norms. An example of this is the analysis of how participants describe "energy" as a tangible resource rather than an abstract concept.

### Interpretative Phenomenological Analysis

This method helped to show how individuals interpret personal experiences, emphasising their subjective nature. It also helped to analyse how individuals attach meaning to these experiences. The primary purpose of this study is to focus on the depth of personal insights into energy processes. To illustrate this, the research

investigated how people describe dissociation episodes, depression, anxiety, and other states of mind in terms of electricity.

### Framework Analysis

In the context of applied research, a systematic approach was frequently employed to analyse qualitative data in accordance with a predefined framework of research objectives.

The following steps are involved:

- Acquiring familiarity with the data.
- Identifying a thematic framework.
- Indexing data to the framework.
- Charting data to map connections.
- Interpreting the results within the framework.

An example here is the use of a pre-existing model of energy regulation to map participants' experiences.

### Visual Data Analysis

An integral component of the study is the analysis of visual artefacts, such as drawings, diagrams, and energy maps created by other researchers on the relevant topics and by participants. The primary objective of this analysis was to explore nonverbal expressions of energy processes from a subjective point of view. An illustrative example is a recurrent symbol or pattern identified in participants' drawings of their perceived energy flow.

### Triangulation

This Thesis refers to triangulation as the process of combining multiple data sources, methods, or perspectives with the objective of validating findings. It helped the work by comparing data from interviews, applications and observations.

Cross-sharing helped verify the theory based on multiple data sources, which complement each other and increase reliability and theory strengths. For instance, self-reported diary entries were compared with existing studies from the literature.

### Reflexive Analysis

In this Thesis, the researcher reflected on their role in the research process, considering how their beliefs or engagement might impact the analytical process. The aim was to maintain objectivity based on participants' and other authors' perspectives. The researcher examined all metaphorical and subjective descriptions to see if there was any bias involved.

### Data Representation

This method consists of the following:

- Narrative Reports: The composition of rich, descriptive accounts of findings to capture the depth of participants' experiences.
- Thematic tables were used to summarise themes and sub-themes to enhance.
- Visual Models: The Thesis shows conceptual diagrams and figures representing relationships between energy processes and personality dynamics.

The above methods of data collection and analysis, clarified, ensure accurate coding and logical categorisation. This allowed the Thesis to develop a grounded theory. The Grounded Theory, with its structured and transparent methodologies, ensured consistency across data and helped to emerge coherent and credible insights into a clear theory of energy processes in personality dynamics. The study's philosophy and principles, which serve as the theoretical underpinnings and ethical guidelines, further strengthen its foundation.

## 4. Philosophy Principles

It is evident that the efficacy of the methods in achieving the desired outcome is contingent upon the presence of a clearly delineated principle. The fundamental concept

of the Thesis is predicated on core philosophical principles, which serve as the central tenet and organising frame.

### Fractals Principle

The key concept employed in this Thesis is the Principle of Fractals, also known as the principle of correspondence. Fractals exhibit self-similarity across diverse scales and are generated by repeating a fundamental process within an ongoing feedback loop. Driven by recursion, fractals are images of dynamic systems. The distinguishing characteristic of fractals is the scale; all other parameters remain constant.

The Principle of Fractals correlates with the principle of correspondence: "“As within, so without, as above, so below, as the universe, so the soul", which can be found in The Kybalion (Holland, 2022). In a way both principles are representing so-called Similarity theory, employed by many applied sciences. Similarity assessment is a cognitive activity that pervades engineering design practice, research, and education. Before the advent of similarity theory in mechanics, success in engineering was determined by personal intuition and past practical experience.

Modern psychotherapy often works based on trial and error or on a personal intuition of the therapist. The current Thesis is determined to bring more clarity to personality dynamics so that professionals can gain a better sense of cause and effect.

### Holistic Principle

Using the principles of fractals, correspondence, and similarity, all personality dynamics can be viewed from a meta-perspective, applying the Holistic Principle (Tucker, 2021). Using this principle, the therapist and the patient can more easily achieve the possibility of seeing PES and felt experience from a metacognitive, non-judgemental self position.

The metacognitive view of the self has far-reaching implications for psychology itself and brain structures (Starreveld, 2024). The metacognitive and non-dualistic understanding of consciousness and other personality dynamics can help patients to learn and develop themselves which will enhance mental health significantly.

### Reflection Principle

Due to specific human mental qualities and qualities of consciousness, all phenomena known to humans or created by humans are reflections of human inner mental processes, cognitive functions, and other personal dynamics. It is called The Reflection Principle (Fahkry, 2020). In other words, humans are perceiving, observing, becoming aware of themselves, and an active state of ourselves which correlates to The Mirror Principle (Steenbarger, 2015). Personality either projecting or extending, and this is always about itself. This can be learned from The Projection Principle (Buckner et al., 2007) and the Extension Principle.

### Inside-Out Paradigm

The Inside-Out Paradigm posits that an individual's perception of reality is shaped by their internal knowledge and self-perception (Sidor M., 2022). This internal knowledge is then expressed in the external world. What we know about ourselves is what we can see in the outside world because of cognitive biases and so on.

### Outside-In Paradigm

The principles outlined above align with the current Thesis, which asserts that all knowledge of physical, chemical, biological, and other processes is a reflection of underlying personality dynamics. This is evident in the biblical verse, "in our image, after our likeness" (Genesis 1:26, ESV). The field of physics has undergone significant advancements in comparison to the field of psychology. This shift in focus can be attributed to the historical prior interest in studying and developing the external world rather than learning about the internal self.

By reversing the Inside-Out view, psychologists get the advantage of viewing personality dynamics in the Outside-In Paradigm. What we know about the external world can be applied to our inner dynamics to understand it better. This provides a valuable framework for understanding personality in the light of knowledge of the external world, i.e. knowledge of physics.

## 5. Main Methodological Principle of The Research

Traditionally, psychological theories have predominantly used an Inside-Out perspective to learn more about internal processes. Mental states and emotions affect the attitude, interpretation and understanding of the environment. The emphasis is on interpreting external events through subjective understanding and internal dynamics.

The Outside-In Paradigm represents an unconventional perspective on personality dynamics and energy processes. The use of the Outside-In Paradigm as the main methodological principle of research allows the observation of external processes of the material world to provide insight into internal psycho-emo-somatic dynamics. Psychological processes are viewed through the lens of the well-researched outside world, where external physical energy processes facilitate the understanding of internal personality dynamics.

The Outside-In Paradigm offers a fresh perspective by connecting psychological processes to the broader context of the material universe, including the laws of physics and other scientific domains. The following exposition provides a comprehensive account of the implementation of the Outside-In Paradigm in psychological research and its potential ramifications for understanding personality dynamics:

### 1. Understanding Psychological Energy via Physical Energy Processes.

In the Outside-In Paradigm, energy is regarded not solely as a psychological construct but as a dynamic interaction between the internal psychological state and the external physical environment. This approach facilitates the research of how external energy sources, such as light, sound, environmental stimuli, and even electromagnetic fields, can impact mental states and personality traits.

The key idea here is that energy shifts between the internal and external dimensions. In a manner analogous to the movement of physical energy between systems and its transition between forms, emotional and mental energy may also be subject to such

transformations. Interactions with both internal and external sources may trigger these transformations and movements.

For instance, exposure to light is one of the most critical factors in the development of anthocyanin pigments, affecting the quality of an apple. In this example, light is a more dominant force, affecting the pigments. A similar effect can be observed in the context of psychological influences, such as communication between individuals, where one person may exert a dominant influence over another, resulting in the former subliminally or even collapsing under the pressure. Analogous processes can be observed within an individual, wherein an internal voice can objectively disrupt and influence sleep and mood. The latter example demonstrates the dominance of one internal process, often termed a 'part' in contemporary psychology, over another process.

## 2. Reinterpreting Personality Dynamics through External Influences

This aspect has made it an appropriate point of reference to the external (field) influences on human personality, leading into exploring personality types that can be understood as energy channels that best adapt to interaction between the internal and the external (field) world. Internal predispositions and external factors, including interpersonal relationships, can influence personality traits such as extraversion, openness, and neuroticism. The Outside-In Paradigm helps us see such influences more clearly by comparing internal dynamics with familiar external physical processes.

For example, just as a tree growing under appropriate care will become healthier in its lifetime, a person will grow into a healthy personality if developed in an appropriate and nurturing environment. Consider the example of an individual raised in an environment characterised by a wealth of stimulating and varied sensory experiences. Such an individual may develop a personality marked by a high openness to new experiences.

The energy dynamics between individuals in social contexts can influence personality development. The "energy" exchanged between individuals—through communication, empathy, or conflict—can influence one's emotional and cognitive states, leading to changes in personality and behaviour.

External mental stressors, such as manipulation, have been shown to have a detrimental effect on cognitive function, emotional regulation, and personality traits and can result in complex developmental trauma. This process can be likened to the corrosion of metal when stored in an unsuitable environment.

## 3. Integrating Knowledge of Physics with Psychological Processes

The Outside-In Paradigm supports understanding psychological processes as electromagnetic interactions and extends this understanding to the broader physical and energetic systems that govern the universe.

This perspective establishes an interdisciplinary framework integrating physics, biology, and psychology principles by observing parallels between physical energy processes and psychological phenomena. Some essential insights below demonstrate how the Outside-In Paradigm supports the current topic of the Thesis.

### Entropy

The entropy factor of the material world can also be observed in the dynamics of the psyche. In thermodynamics, entropy is the tendency of systems to change towards a state of disorder and decay. Transforming one form of energy into another is a hallmark of the entropy phenomenon. It is a universal doctrine that can be used for any psychological state, revealing the dynamics of mental processes.

Such disorders as anxiety or depression may be viewed as states of "psychological entropy," where cognitive and emotional processes become disordered due to overwhelming external demands or energy depletion.

It is an established tendency in the field of clinical psychology that the absence of treatment for a personality disorder can result in its regression. Conversely, the current research confirmed that memories of traumatic experiences also undergo a process of decay, giving rise to a perception of their disappearance.

### Resonance

In physics, resonance signifies energy amplification when two or more systems oscillate at the same frequency. A similar phenomenon occurs in psychology, where individuals may experience heightened emotional or cognitive states when they resonate with each other or with specific external stimuli, such as music, social interactions, or nature. This resonant state can lead to an energised or synchronised mental state.

### Flow

The concept of "flow," proposed by psychologist Mihaly Csikszentmihalyi, can be described in terms of energy dynamics. The Outside-In Paradigm helps to see the similarity of electrical current flow to psychological flow. Like electricity, the psychological flow starts with the difference in potentials that create the voltage (pressure), pushing charge through a conductor - internally and externally. This process is described in detail in the relevant Chapter of this Thesis.

## 4. Benefits of the Outside-In Paradigm for Research

In therapeutic practice, the Outside-In Paradigm provides a comprehensive, holistic framework for understanding and intervening in personality dynamics. Complex and subjective personality dynamics become more transparent and understandable when viewed through electromagnetic energy. By learning the principles of psychological energy through the prism of electromagnetic laws, therapists can propose more precise and effective interventions to balance the psycho-emo-somatic energy.

The Outside-In Paradigm helps to shift our understanding of psychological processes, personality development, and mental well-being. It utilises insights from physics and energy systems to develop a better understanding of our psychological questions and provides novel pathways for therapy, personal development, and social change.

This Paradigm is a unique synergy that allows researchers and practitioners to study the interrelatedness between psychological states and energetic forces to provide a more integrated and holistic view of personality dynamics.

## 6. Summary of the Methodology Chapter

The overall approach presented in this Thesis draws on a Grounded Theory that allows research of energy processes in psychology using the Fractal Principle and the concept of an Outside-In Paradigm. To develop the theory, this research used methods of a qualitative approach focusing on participants' psycho-emo-somatic experiences. The Fractal Principle is employed to model the recursive relationship between psychological energy at different scales, which can be interpreted as patterns emerging at one level of analysis and then replicating, at least in some way, at another level of analysis. The combination of semi-structured interviews, focus groups, and constructivist grounded theory to analyze the data will ensure the expression, experience, and regulation of psychological energy is captured as either spontaneous or intentional, guaranteed through crystallization. It comprises constant comparison and key category generation, leading to the identification of core categories. The main agenda of the Thesis was to use a broad, context-based theory that augments comprehension of energy in psychological processes and public utilities for mental health and psychotherapy.

# III. RESULTS: ANALOGOUS OF ENERGY PROCESSES

Modern psychotherapy frequently relies on trial and error or the therapist's intuition and years of experience. This Thesis aims to enhance the clarity of personality dynamics, thereby enabling professionals to plan therapy with a clearer strategy and tactics.

The advantage of viewing personality dynamics from an "outside-in" paradigm provides a valuable framework for understanding personality in the context of well-researched data of knowledge about the external world, including knowledge of physics, chemistry, biology, and genetics.

The most straightforward and illustrative approach to identifying and defining personality dynamics as energy processes is to view them as electromagnetic interactions. This approach begins with the atom as a fundamental energy matter and traces similar dynamics in transformer and circuit devices. It then proceeds to the human being's personality, where these interactions manifest as energy structures and processes in a striking similarity.

To say the least, each of the above objects has a minimum of three analogous levels to be considered:

1. Core - the energy source & inner resources
2. Functionality at different energy levels
3. Force Field is the interaction with the environment and external objects

In general, all levels are aspects of a holistic process, and there is no clear division of causality between them. They are considered separately for research purposes only. The principal objective of this exercise is to obtain a more comprehensive grasp of the nature of energy and its associated processes. This will provide the foundation for recognising personality dynamics as energy processes.

## 1. ATOM

The idea that matter comprises discrete “building blocks”, or particles of matter, has been known for centuries (Pullman, 2001). These building blocks are called atoms. It is

common knowledge today that matter includes atoms and also objects and processes made of atoms.

The modern interpretation of the term atom is that the word is deriving from the ancient Greek word *'Ατομο'* (with emphasis on the "a"). The official version says that the word "atomo" is a combination of the negative Greek term "a-" (A) and "τομή," (tomi - with emphasis on the "i") - the term for "section, cut". The whole word means "uncuttable". But in this case, the emphasis would be on the last syllable: Atomi, which is quite far from the original Atomo. Interestingly, in fact, in Greek, *Άτομο* simply means "an atom, a person, and an individual". Similarly, the word '*individuum'* as a noun means "an atom, indivisible particle" in Latin.

It is important to mention another striking similarity in words: atom (Greek) and atman (Sanskrit), where atman is described in Bhagavad Gita as "neither born nor does it die at any time, nor having been it will cease to exist again. It is unborn, eternal, permanent, and primaeval. The Atman is not destroyed when the body is destroyed" (Levin, 2019). It shows the exact conservation and transformational quality of energy, well known to modern science.

The meaning of Ātman is the Sanskrit term for the true, eternal essence within each individual. It is the self-existent, impersonal witness-consciousness, or what some call the soul or the true Self. The understanding of the word "atom" as an individual, a person, or even a consciousness is essential to view personality dynamics as an energy process.

### *1. Core - The Energy Source*

Everything in the Universe starts with the core—the nucleus. In an atom, the nucleus is the centre and the main energy source; it consists of protons and neutrons. Neutrons have no charge (they are neutral) but can be activated.

Protons carry a positive electrical charge, which creates an electric field. The quantity of protons gives the atomic number (Z), which determines the element to which the atom belongs and represents the identity of the atom.

The mass number of an atom is the sum of its protons and neutrons. However, particle physics specifies that the mass does not come from the particles themselves (protons and neutrons) but from the kinetic energy of the quarks and the binding energy of the gluons (Sundermier, 2015), - parts of the nucleus. Without the movement of the energy process, there will be no mass or structure.

An atom is neutral if it contains an equal number of protons and electrons. When an atom gains or loses electrons, it becomes charged and is called an ion.

The term "charge" describes the quantity of subatomic particles present in a system or process. The greater the particle count, the higher the charge. For the charge to take effect, particles need to move and interact.

### *2. Orbit - The Energy Levels*

The interaction between protons and electrons creates a charge within the atom, which generates an electric field. The movement of the electric charge creates a magnetic field, representing the outward flow of energy. Electrons are negatively charged particles that orbit the nucleus in electron shells, creating energy levels. These electrons are involved in chemical reactions and the formation of chemical bonds.

Energy levels, in chemistry, are distances from the atomic nucleus where electrons can be found. Since electrons (-) are electrically attracted to the nucleus (+), electrons will generally occupy outer shells only if other electrons have filled the inner shells. The lowest energy level of a system is called the ground state; higher energy levels are called excited states. These energy levels remain essentially fixed and are called stable states. In order to change the state, an atom needs to emit or absorb a discrete amount of energy. After absorbing external energy, an electron may "jump" from the ground state to a higher-energy excited state.

The electrons in the innermost shell have lower energy than those in the outer shell. The innermost shell can hold a maximum of 2 electrons, while the outermost shell typically has the highest energy and is involved in chemical reactions with other atoms.

The constant motion of electrons gives rise to atomic vibration. The greater the number of electrons in motion around the core, the more frequently they change states from ground to excited states, resulting in higher vibration.

Vibration can be defined as the periodic oscillatory movement of a particle when it is displaced from its equilibrium position. The displacement can occur due to excitation forces, which can be applied to the object from the outside or within it. Vibration is entirely determined by the intensity of the excitation, the direction of the vibration, and its frequency. The excitation and movement of electrons around an atom result from interactions with other atoms.

### *3. Force Field Interactions*

In the context of the classical field-theory approach, each type of interaction is associated with a distinct force field. In this scenario, the interaction at a distance is characterised by a potential, which may be defined as the field between particles. The concept of an altered space implies that each particle has the potential to manifest the action of a force. This is based on the understanding that the very presence of an energetically charged particle alters the properties of space, creating a force field around itself.

The influence of positive and negative charges on electric fields is mediated by their capacity to act as sources, like a fountain or a spring: positive charge radiates outwards - pushing out; or they act as sinks, like a drain or a whirlpool: negative charge radiates inwards - pulling in (Aaron, 2024). The strength of the field depends on the magnitude of the charge and the distance from it. The interaction that creates the force field around a charged object can be internal or external. Both are possible only if the object is unstable, not neutral, and isolated within itself.

Internal interaction is possible when the number of electrons and protons is unequal. Otherwise, it forms a neutral atom, ensuring electrical neutrality and isolation. Neutral atoms cannot interact.

External interaction is possible when the atom has “holes” in its energy levels. Because the full energy level creates the most stable, less reactive, well-insulated atom, this isolates the atom from electromagnetic interaction with other particles.

The primary types of interactions (force fields) are strong (nuclear), electromagnetic, weak, and gravitational:

- Nuclear (so-called, strong) force field occurs between strongly interacting particles.
- Electromagnetic interaction is a fundamental force arising from the interaction of electric charges. Neutral particles interact with the electromagnetic field due to their complex structure or quantum effects.
- Weak interactions play a more significant role in things falling apart or decaying.
- Gravitational interaction affects massive primary bodies, which are too weak for elementary particles due to their small mass.

While the other forces serve to maintain structural integrity, weak forces act in a manner that is opposed to this. Furthermore, the influence of gravitational forces is frequently overlooked when analysing interactions within the microworld. However, the present Thesis will review all troops to illustrate the analogous characteristics in personality dynamics.

In short, there are two possible areas of change and transformation in the atom:

A chemical change happens on the cloud (field) level when electrons move within the levels or between atoms. Atoms with unfilled outer shells are unstable and will usually form chemical bonds with other atoms to achieve stability. In chemical reactions, the redistribution of electrons amongst the atoms results in the formation of new bonds and compounds. However, the nuclei and the number of protons remain unaltered, meaning that the atom's identity is unchanged, although this affects its resources.

Nucleus transformation happens on the core level if the nucleus has an excess of internal energy—either neutrons or protons. This makes the atom unstable and radioactive and changes its identity.

### *4. Core Transformation*

To transform the core identity, a strong power is needed, such as radioactive exposure. An external energy source is required to make an atom unstable and initiate radiation. The atom must have an external influence to gain excess internal energy. This external influence can be another unstable radioactive atom or a specific environmental condition, like heat, which sets off a chain reaction. This process is possible through nuclear reactions (Baird, 2013).

Three main types of nuclear reaction:

- Fusion is the joining of two small atomic nuclei into one nucleus.
- Fission is the splitting of one sizable nuclear nucleus into smaller fragments.
- Radioactive decay is the change of a less stable nucleus to a more stable nucleus.

**Nuclear fusion and fission** are rare reactions that require a great deal of energy to ignite. For the fusion process, the mass of the atom must be converted into energy, according to the basic formula $E = mc^2$. A radioactive atom will attempt to reach stability by ejecting particles or releasing energy in other forms.

In contrast to nuclear fusion and fission, radioactive decay happens automatically to unstable nuclei and is much more common. Radioactive decay occurs when an unstable atom has excess internal energy, allowing the nucleus to change spontaneously toward a more stable form. The nuclear force is a short-range fundamental interaction that binds particles together. The atomic interaction binds nucleons within nuclei and manifests a fundamental strong interaction.

In essence, nuclear forces are forces of magnitude with well-defined properties: The strength and magnitude of this interaction are significantly greater than that of the electromagnetic, weak and gravitational interactions. However, they become repulsive with short distances (below 0.5-10-15 m). Their range is limited; these forces are not central, and they have the saturation property. Nuclear forces are not dependent on the

charge of the interacting particles; they are exchange forces. They depend on the mutual orientation of interacting nucleons. Their functionality is contingent upon the mutual orientation of spin and orbital momentum.

The rearrangement of subatomic particles during the transformation is the primary process of nuclear reactions. These reactions entail the redistribution of nucleons, a fundamentally distinct phenomenon from that observed in chemical reactions. (Dull, 2018). In chemical reactions, electrons are redistributed between atoms. This process, which involves the loss or gain of electrons, does not transform the atom's identity but rather alters its properties and behaviour.

### *5. Electromagnetic Force Field*

Contemporary scientific understanding acknowledges the existence of electromagnetic fields with properties beyond the capacity of the modern human mind to perceive. Nevertheless, current knowledge is sufficient to demonstrate the primary concept of the analogy and the similarity of electromagnetic processes in atoms, circuit design, artificial devices, and personality dynamics.

An electromagnetic field is a property of space caused by the movement of an electric charge. A static charge produces only an electric field in the surrounding space, while a moving charge produces a magnetic field. An electromagnetic field comprises charged atomic particles, such as electrons and protons. It is created when particles move and transport the energy charge as electromagnetic radiation or light. Electromagnetic interactions can be based on three primary types of chemical bonding: ionic, covalent, and metallic.

**Ionic - Exchange (Losing/Gaining Energy)**

An ionic bond is formed when valence electrons are transferred from one atom to the other to complete the outer electron shell.

**Covalent - Sharing**

A covalent bond is formed when the valence electrons from one atom are shared between two or more particular atoms.

**Metallic - Common Use**

A metallic bond is formed when the valence electrons are not associated with a particular atom or ion but exist as a "cloud" of electrons around the ion centres.

To conclude the above, the main parts of an atomic energy lifespan include:

1. The core - an energy source which forms the mass
2. The orbit - an internal functionality on different energy levels and
3. The force field - the typical interaction with external energy sources creates a nuclear, electromagnetic, weak or gravitational force field.

These atomic energy processes are similar to those that occur in man-made artificial devices, such as a simple circuit, a transformer, or other electromagnetic devices.

## 2. ELECTROMAGNETIC DEVICE

The field of circuit design enables observing complex energy processes in personality dynamics, even in a more straightforward and comprehensible manner than in atomic structure. Artificial devices, like circuits and transformers, represent the exact principles used in current research, namely reflection, projection, totality and holistic principles, which can be applied in the Outside-In Paradigm.

The purpose of an electrical circuit or any other device is to perform a proper function. To produce power and do the work, a complete closed circuit and transformer must have the same three parts, analogous to the components of an atom:

1. The core part is the fundamental base and power source, which creates the electromagnetic charge, voltage and current flow.
2. The functionality comprises the conductor, a wire, or a winding, which enables the flow to follow the path at low and high energy levels.
3. The field of force interaction represents the load, which performs the required task and does the work - lightens up a bulb, for instance.

### *1. Core*

It is a fundamental principle of circuit theory that every complete circuit must have a core, commonly referred to as the power supply, and a base with elements, which provides support and electrical insulation between the copper layers.

The power supply may be a mains or a battery, such as an AC biode. Alternatively, it can be any suitable input of direct current (DC) that has been transformed into alternating current (AC) power.

In transformers, the core is a base that supports the windings and provides a low-resistance pathway for the electromagnetic flux. A ferromagnetic material generates a magnetic field within the core. For example, the Earth's magnetic field results from electrical currents generated by its iron core.

However, an energy source is still required for electricity to flow through the metallic core in the transformer. This shows that in the man-made device, we need two core elements: the base material and the process—the source of electricity.

In a manner analogous to protons in atoms, the core functions as a power source, perpetually exhibiting a positive charge and expelling energy into the surrounding medium (push). In contrast, the conductor facilitates the movement of electrons, thereby generating a negative charge and drawing energy from the environment (pull). The interaction of the two creates the movement, which will be explained in the next Chapter Functions and Elements, and creates an energy field, which will be viewed in the Chapter Force Field Interactions.

### *2. Functions and Elements*

Every electromagnetic device has basic properties: conductivity, resistivity, and susceptibility (permeability and permittivity). These properties are crucial to understanding why and how energy works, how power is generated, what conditions support the process, and how it affects the whole system and the interaction between different systems.

**Conductivity**

A conductor element is needed for the electrons to move the charge around the circuit or transformer. This can be a simple wire or a winding around the base made of conductive material. Electrical conductivity is the ability of the material to conduct an electrical current, which is a flow of charged particles, such as electrons or ions, moving through an electrical conductor.

A conductor can be a substance, material, or object that conducts heat, electricity, light, or sound and allows energy to flow through it. Electrical conductors contain energy charges (usually electrons) that can move relatively freely through the material; a voltage applied across the conductor, therefore, produces an electrical current.

**Resistivity**

In electrical engineering, resistivity is defined as the reciprocal of electrical conductivity. Good conductors have a high conductivity and low resistivity.

Resistivity is the inherent property of a material that affects the ease with which current can flow through a wire or electrical component. In contrast, resistance is the degree of difficulty in passing current through a given wire or component. The resistance of a material is directly proportional to its resistivity.

Conductivity as a conductor and resistivity as an insulator (dielectric) are two fundamental properties of electromagnetic matter. Both are related to susceptibility.

**Susceptibility**

In general, susceptibility is a tendency, sensitivity, and capacity to be affected and influenced by an external force. In physics, a material or substance's susceptibility describes its response to an applied field. Magnetic susceptibility, for example, is the total amount of magnetisation in a material when a magnetic field is applied. This is caused by electrons and nuclei interacting with each other.

In electromagnetic compatibility (EMC), susceptibility refers to the sensitivity of a device's functionality to external electromagnetic interference. Susceptibility offers valuable insight into objects' electromagnetic properties, energy levels, and material bonding.

All three properties of the matter: conductivity, resistibility and susceptibility influence the process of electromagnetic interactions and make it possible for electrons to move from the negative terminal of the voltage source through the conductive material (such as a wire) to the positive terminal of the voltage source. This flow of electrons constitutes an electric current and demonstrates the main electromagnetic (EM) processes.

## 2.1. EM Processes

### *Current and Frequency*

Electric current is the rate of charge (electrons per second) passing through a point in a circuit. The charge carriers could be any subatomic particles (e.g., electrons having a negative charge, protons having a positive charge), ions (atoms that have lost or gained one or more electrons), or holes (electron deficiencies that may be thought of as positive particles) (Encyclopaedia Britannica, 2024).

Current is usually denoted by the symbol I. Ohm's law relates the current flowing through a conductor to the voltage V and resistance R; that is,

$V = IR$

An alternative statement of Ohm's law is

$I = V/R$

The way current flows through a conductor or a field can differ. One way is called alternating current (AC), and the other is called direct current (DC).

Direct current means that electricity flows in a single direction from the positive to the negative terminals. The voltage does not change. Visually, it is usually presented as a straight line.

Alternating current reverses direction and continuously changes magnitude (size). The AC voltage changes, and it can be symbolically presented as a sinusoidal line. The number of AC cycles in 1 second is called frequency and is measured in Hertz.

When electrons flow through wires, they collide with the ions in the wire, which causes the ions to vibrate more. This increased vibration of the ions increases the current, voltage, and, consequently, the temperature of the wire.

In alternating current (AC) circuits, the direction of the voltage is periodically reversed, creating a wave. In contrast, the current maintains a consistent direction, flowing from the higher potential to the lower potential.

Because the electrons that create the current are in constant motion, they cause the atom to vibrate. The electrons are still moving at zero, so an atom constantly vibrates. Any object made of atoms also vibrates at a specific frequency, which varies according to the internal and external energy conditions: charge, current, voltage, etc.

### *Voltage*

Voltage is the energy-per-charge - the measure of the potential difference between two points. The potential difference between two points in a circuit can be caused by a build-up of electrical charge, which can result from the presence of a capacitor or other similar component. Additionally, an electromotive force can generate voltage, which may occur due to phenomena such as electromagnetic induction.

Voltage is the force that makes electrons flow. This force/pressure/tension/stress comes from the power source of an electrical circuit and pushes current through a conducting loop, enabling the load to do work, i.e. lighting a light.

When voltage pushes the current, it creates power: P=VI.

### *Power & Load*

In electrical engineering, power is defined as the rate of load (work done) at which an electrical circuit supplies energy:

P=IV

(Power = Potential difference × Current)

It shows the amount of power (P) flowing through a circuit.

In a circuit, an element that consumes electric power and does the work is considered a load. A load uses electrical energy and converts it into another form. For example, a load transforms current into a form that can be used, such as heat, light, or motion.

Similar to load, conductors and resistors can also assume power and turn it into heat. When the voltage is sufficiently high, an electric current can traverse not only via a conductor but also the air. A lightning strike can be observed when the voltage reaches

a point where it can pass through the air. Considering this point when examining the interaction between distinct systems that a physical conductor does not connect is crucial. This phenomenon also encompasses the interaction between individuals.

In the absence of an adequate safety system, the bulb's high power has the potential to melt insulation, thereby creating a dangerous situation. A straightforward circuit design must be augmented with safety and protection components, including insulation, capacitors, inductors, resistors, fuses, and grounding elements. These elements' a priori intention is to enhance and regulate the electromagnetic interaction.

*Resistance*

Resistance is a property of a conductor (matter) that prevents current from passing through, causing electrical energy to be converted to heat. It can be defined as a measure of the opposition to the flow of current in an electrical circuit. Resistance affects the voltage and the current by decreasing them and balancing the stress in the current.

The relationship between current, voltage, and resistance is expressed by Ohm's Law. This states that the current flowing in a circuit is directly proportional to the applied voltage and inversely proportional to the circuit's resistance, provided the temperature remains constant.

The resistance of a material is dependent upon many factors: the inherent properties, the length, the cross-sectional area, and the temperature. The higher the resistance, the higher the heat production. If an element with high resistance is in the circuit, it is usually hot, depending on the value of the electric current (amperage) in the circuit and the resistance of the element. Excessive heat can damage the system. An insulator is needed to balance the current and the voltage. Good insulators have low conductivity and high resistivity.

### 2.2. Circuit Design Elements

The insulation plays a crucial role in maintaining equilibrium between the current and the voltage and can enhance a device's capacitance.

*Capacitor (Condenser, Container)*

A capacitor is an electrical component that condenses and stores energy in the form of an electric field. Its function is analogous to that of a resistor, namely, the regulation of energy flow. Capacitors are used to maintain the voltage at a certain level: to reduce the voltage pulsation and ripples, reduce noise, and maintain a constant voltage. When a high voltage is applied to the parallel circuit, the capacitor is charged, and conversely, it is discharged with the application of a low voltage. An insulator can be used to increase the capacitance.

*Insulator*

An electrical insulator is a material that impedes the flow of electric current. The electrons that comprise the insulator's atoms are held in place by strong binding forces, preventing them from undergoing significant movement. An electrical insulator is an electrical device that insulates conductors from one another and from the conductor to the ground.

*Resistor*

Resistance may be generated within the conductive material due to an insulation material that encloses the conductor or a unique device called a resistor. A resistor is a passive component designed to increase an electric circuit's ability to suppress or stop the flow of electric current through it. In this case, the resistance toward the flow of current will result in a voltage drop and provide an adjustable resistance value. Resistors can provide some balance between current and voltage, but they do not ensure the safety of the system. Safety requires additional components, such as fuses and grounding.

*Fuse*

Fuse or circuit breakers are protective elements against overload. They are simple yet powerful devices that consist of a resistor that melts in response to excessive current flow. If the system is overloaded, the last line of defence is the fuse. As the current and

load increase, the resistance in the fuse may melt, and the fuse may blow, protecting the circuit from overload. In the event of an overload, the entire circuit may shut down.

*Ground*

Ground provides better safety, stability, and predictability for the system. Grounding requires a conducting pathway between the object and the larger object (ground) to be grounded. In essence, grounding is a technique that provides a safe and low-resistance pathway for excess current and voltage spikes to go harmlessly into a neutral conductor. This method diverts the current from sensitive equipment, reducing the risk of injury or damage. This minimises the risk of electric shock, electrocution and fire caused by unexpected voltage spikes or short circuits. The grounding process of electrical equipment is very similar to how the ground energy level works in atoms. The connection to the ground or Earth can be viewed as a core of the system in the electric circuit.

### 2.3.Energy Levels

Energy levels in circuit devices can be compared to energy levels in atoms, though they differ in nature. In atoms, energy levels are quantised and discrete, corresponding to specific energies that electrons can have in their orbits around the nucleus. Electrons can transition between these levels by absorbing or emitting energy.

In circuits, energy levels refer to the potential energy of charge carriers (like electrons) influenced by voltages and components such as capacitors and inductors. Capacitors store energy in an electric field, which is proportional to the square of the voltage across them. Inductors store energy in a magnetic field, and the energy is proportional to the square of the current. Though not quantised like atomic energy levels, these devices can be seen as having "levels" of energy based on voltage or current. In both cases, energy levels determine how systems behave — electrons move between atomic energy levels, while charge carriers in circuits are affected by voltage and current. While nuclear energy levels are discrete, circuit energy levels can vary continuously depending on the components and conditions.

For example, transformers have a low-voltage winding on the inside, around the core, and a high-voltage winding on the outside. The low-voltage winding has fewer turns of thicker, insulated wire designed to protect and handle higher currents. In the context of sound waves, there are also distinguished energy levels. The lowest frequency is the fundamental (core) frequency (Benward and Saker, 2003).

## *3. Force Field Interactions*

All electrically charged bodies, objects, and particles possess an electromagnetic field, which is the source of the force exerted on them. The force field is generated by the interaction of particles and is conveyed by photons. The field is often conceptualised as an invisible force, although this is only partially accurate. Photons constitute the fundamental building blocks of electromagnetic waves. Specific wavelengths are classified as "light," which encompasses the visible spectrum. In this case, our eyes can detect single photons within the visible wavelength range. This indicates that the field is not entirely invisible.

### 3.1. Photons

All electromagnetic processes and interactions are associated with a distinct force field, which is carried by photons. The absence of mass inherent to photons renders them almost undetectable, posing a significant challenge to the scientific community in substantiating the existence of the fields surrounding the human body or between several bodies. A team of scientists led by Professor Gerhard Rempe at the Max Planck Institute of Quantum Optics has realised a device which leaves the photon untouched upon detection and observation (Rempe et al., 2013).

It is of the utmost importance to bear in mind that photons do not possess mass, at least not in a way that is currently known. This implies that they cannot be considered matter in the conventional sense. Nevertheless, photons are emitted and travel as waves, which indicates that, as particles, they are matter in the form of a wave devoid of mass.

The cutting-edge research in quantum electrodynamics practically proves that it is possible to create matter directly from light, from photons (Rose, 2014).

More to it, electromagnetic fields are constituted of photons, which serve as the particles that facilitate interactions between charged particles. As photons interact solely with charged particles, yet are themselves uncharged, they are unable to interact with one another. Give it an example of light beams of two flashlights passing through each other without scattering, unlike two cars on the road.

Furthermore, because photons are the "field" particles (bosons), they, unlike "matter" particles (fermions), can occupy the same place at the same time and the Pauli exclusion principle does not apply to them (Pauli, 1925). This enables them to bypass direct interaction and move through each other in a manner akin to that of a "ghost" traversing a wall. Photons represent the entire spectrum of electromagnetic radiation, including radio emission, light (including infrared and ultraviolet), X-rays and gamma radiation.

### 3.2. Waves & Radiation

A wave is a form of energy flow movement. It is a result of an electric and magnetic field interaction. It is a type of radiation that travels through matter or space. Radiation is defined as an irreversible flow of electromagnetic energy from the source (charge) to infinity. This phenomenon is possible due to the specific electromagnetic field characteristics associated with accelerating charges.

The size of a wave is directly proportional to its energy. Longer wavelengths belong to larger objects with a low energy, shorter waves represent smaller objects with higher energy. For example, Gamma-waves are much shorter and higher in energy than radio waves.

Most EM waves are invisible to the human eye, although some have a colour in a spectrum from ultraviolet to infrared. Most EM waves have no sound available to a human ear, although some spectrum of radio waves can be recognised without additional equipment. It is due to the observer's ability to perceive the intangible.

Waves and radiation represent fundamental properties of electromagnetic interaction, offering the potential to gain insight into previously invisible and unknown energy processes. For example, the non-contact magnetoencephalography (MEG), based on the registration of magnetic fields generated by the electrical activity of the brain, is currently being studied (Singh, 2014). The neurosciences are employing this device in their investigations of the phenomenon of mirror neurons, among other areas of interest.
Waves are differ in types. Coherent waves are characterised by identical wavelengths, frequencies, speeds, amplitudes, and constant phase differences. In contrast, incoherent waves exhibit at least one of these properties. The best example of interaction of coherent waves is music harmony. If music is disturbed by incoherence, the human ear can hear a false note or even noise. When two coherent waves are combined at the same location, it is called superposition. When two identical waves are superimposed in phase constructive interference occurs. Destructive interference occurs when two identical waves are superimposed exactly out of phase.

### 3.3 Resonance

The phenomenon of resonance in electric circuits is of vital importance in influencing the behaviour of circuits and the transmission of electrical signals. The term resonance comes from Latin "resono", which means "responding", and can be defined as the phenomenon whereby a vibrating object causes another object to oscillate at a higher amplitude. This occurs when the frequency of the initial object's vibration matches the resonant frequency or natural frequency of the second object.
The use of resonance allows for the maintenance of AC circuit oscillations at a constant frequency, thereby providing enhanced stability and balance to the system. The advantages of resonance include selective tuning and filtering of unwanted signals and focusing on the desired frequency band is a key feature of communication systems. Resonance circuits provide effective signal amplification, resulting in increased signal power. This technology is employed in a variety of communication systems. Resonance circuits are also utilised for the purpose of impedance matching, thereby ensuring the

maximum transfer of power between the source and load. This technology is used in the construction of antennas and transmission lines.

Energy efficiency is another key benefit of resonance circuits. Resonance circuits are capable of storing and transferring energy in an efficient manner between the inductive and capacitive elements. One disadvantage of resonance circuits is their narrow bandwidth; they are effective for a limited range of frequencies. This may limit their suitability for applications requiring broader frequency coverage. The design of resonance circuits is a complex process. To achieve the desired resonance properties, such as bandwidth and Q factor, it is essential to give careful consideration to the circuit and component values.

Resonance is when the inductive and capacitive reactance in an AC circuit cancel each other out, resulting in a minimum impedance and increasing current and voltage. Aligning reactive elements makes the circuit more responsive to the AC frequency. In circuit design there are two types of resonance possible: series and parallel. The series resonance circuit functions as an acceptor circuit. The magnitude of the inductance is at its minimum (ideally zero), thereby facilitating the acceptance of current. Series circuit magnifies voltage, current at resonance is maximum = V/R.

Parallel resonance circuit is a rejector circuit: it rejects the resonant frequency current while allowing the other frequencies to pass through. A parallel resonant circuit offers the highest impedance (ideally infinite), and therefore blocks the current at the resonant frequency. Parallel circuit magnifies current, current at resonance is minimum = V/(L/CR).

An acceptor lets current pass at the resonant frequency but not at other frequencies. A rejector stops current passing at the resonant frequency. The use of resonant systems allows for the generation of vibrations at a specific frequency, as seen in musical instruments, or the isolation of specific frequencies from a complex vibration containing multiple frequencies, as seen in filters. These capabilities are essential in any interaction, conductive and inductive.

### 3.4. EM Field

Electricity and magnetism are essentially two sides of the same coin of electromagnetic interaction, because a changing electric field creates a magnetic field, and a changing magnetic field creates an electric field. Magnetism and electricity are different aspects of electromagnetism, which is one part of Nature's fundamental electroweak force. Lines of magnetic force create a magnetic field, and the strength of the field is determined by the number of lines (density). Generated by the motion of molten iron in Earth's core, the magnetic field protects our planet from cosmic radiation and from the charged particles emitted by our Sun. It also provides the basis for navigation with a compass as confirmed by NASA Science Editorial Team (Buis, 2021).

Electric field is created by the difference in voltage and it pushes the current. The current represents the flow of charge. Magnetic field created by electric current induces a force on a moving charge of other magnetic fields. A magnetic field is produced whenever an electrical charge is in motion. A magnetic field describes a volume of space where there is a change in energy. Magnetism is a force created by the movement of electrons in atoms (Gale Research, 1996). A moving charge in a magnetic field experiences a force perpendicular to its own velocity and to the magnetic field (Feynman, 1963).

The following comparison table illustrates the distinctions between the electric and magnetic forces, intending to elucidate their respective functions and qualities. This understanding will facilitate an appreciation of the rationale behind the efficacy of specific psychotherapy techniques in addressing certain disorders and their limitations in treating others.

*Table 1: Qualities of Electric and Magnetic Fields comparison*

| | |
|---|---|
| CHARGE TYPE<br>Electric field is created by any charged particle: moving and non-moving.<br>PRODUCED BY<br>Electric field is produced by **voltage**.<br>The higher the voltage, the stronger the electric field.<br>POLES<br>Positive charge is the source of the electric field, negative charge is the sink. In nature they can accrue independently of each other.<br>LINES<br>Field lines are open and can go to infinity.<br>ENERGY CHANGE<br>Charge placed in an external electric field changes its kinetic energy and accelerates. Electric field does work on the charge.<br>SHIELDING<br>Electric fields can be shielded. | CHARGE TYPE<br>Magnetic field is generated only by moving electric charge.<br>PRODUCED BY<br>Magnetic field is produced by **current**. The greater the current, the stronger the magnetic field.<br>POLES<br>Magnetic monopoles do not exist in nature, so they can only be created artificially. Both poles always occur together (cannot be separated).<br>LINES<br>Field lines are closed loops. Magnetic field is perpendicular to the motion.<br>ENERGY CHANGE<br>Charge placed in the magnetic field is not accelerated and does not change its energy. Magnetic field does not work on the charge.<br>SHIELDING<br>Magnetic field cannot be shielded, only deflected. |

### *Magnetic Spin*

The generation of magnetic fields is attributed to the movement of electric charges and the intrinsic magnetic moments of elementary particles, which are associated with a fundamental quantum property, namely their spin. The spinning and orbiting of an atom's nucleus and the flow of electrical current through a wire constitute the generation of a magnetic field. The magnetic field around the wire is directly proportional to the magnitude and direction of the current flowing through the wire. Thus, if the current through the wire is changing sinusoidally, so is the magnetic field surrounding the wire.

Given that the electrons in orbit are small moving charges, a small magnetic field is generated in the vicinity of each atom. The orientation of these magnetic fields is specific and is defined as the atom's magnetic moment. In essence, all of the atoms within an object behave as multiple small magnets. In the majority of materials, the magnetic moments are oriented in a random manner, resulting in a net magnetisation of 0. This indicates that such an object does not possess magnetic properties. When the majority of these moments are oriented in the same direction, this object exhibits net magnetisation and generates a magnetic field.

A magnetic field exerts a circular or spiral force on moving electrically charged particles. This force, which acts on electric currents in wires situated within a magnetic field, is the underlying principle that enables electric motors to operate. The changing magnetic field around AC current-carrying conductors is what causes transformers and AC motors to work. The same principle also drives the muscles of the human heart.

### *Magnetisation*

When an external magnetic field is present, the domains will rotate and align with the external magnetic field. When all or most of the domains are aligned in the same direction, the whole object becomes magnetised in that direction and becomes a magnet. The process of using a magnetic field to magnetise another object is called induction. Once a magnet has been induced, it produces its own magnetic field as long as its domains are aligned.

The strength of the field depends on multiple factors, including the amount of current. If you increase the current, the magnetic field strength also increases; if you decrease the current, the field strength decreases. The shape of the conductor also affects magnetic field strength. The magnetic field does not change the energy of the charge (voltage), given that it is situated outside the object and perpendicular to the velocity. However, it is capable of rearranging the energy within the system, influencing the electric field to perform its functions more effectively, namely with greater speed, strength and balance.

### *Conductive and Inductive Interactions*

Conductive interaction is achieved via a wired connection, whereby power is directly applied to a system via a physical cable or substance. In a circuit, the conductors will store electric charge when separated by an insulator. To store and transfer energy in a magnetic field, an inductor is required. Inductor regulates the current by storing energy in the form of a magnetic field. It can deliver energy to the circuit, but not on a continuous basis. The energy absorbing and delivering capacity of an inductor is limited and transient in nature. Inductive charging is a wireless connection that employs electromagnetic waves for coupling. It should be noted that no physical cable or a substance is required for inductive interaction.

In inductive coupling, the primary coil is connected to an AC supply. When AC passes through the primary coil, it creates a changing magnetic field in the iron core. This changing magnetic field in the core through the secondary coil induces an alternating voltage of the same frequency in that coil, as described by Faraday's Law.

For the secondary circuit to become a standalone entity, it must be capable of sustaining itself independently, having its AC supply as an autonomous energy source. In the transformer, to increase the energy output of the secondary circuit, it is necessary to increase the number of turns (winding) around the core, which will increase voltage and current. Induced currents can cause local heating, the main effect of time-varying fields. Induced currents can cause similar damage to the system as overcurrent or excess current.

*Hysteresis*

Once we have induced a magnet, we can observe an interesting effect when the external magnetic field is removed. Depending on the material, the domains will stay lined up together in the same direction even after the external field is gone. The domains do not instantly return to normal. This tendency to stay aligned is called hysteresis. Hysteresis is what allows us to make permanent magnets. Hysteresis can be defined by the dependence of a state of a system on its history. Hysteresis occurs when a system's output depends on the present and past inputs. Essentially, hysteresis refers to lagging and can be characterised as a lag of magnetic flux density. Hysteresis loss in physics arises due to magnetization and demagnetization of the magnetic core as current flows in the two opposite directions in the circuit. In a circuit, the magnetic flux increases with the increase in the value of current.

*Overcurrent*

In an electric power system, overcurrent or excess current is a situation where a larger than intended electric current exists through a conductor, leading to excessive generation of heat**,** and the risk of fire or damage to a system. It is often the situation where the currency is switched off, but some extra current cannot find its way out and burns the conductor and insulation from within. Possible causes for overcurrent include short circuits, excessive load, incorrect connections, an arc fault, or a ground fault. The overcurrent protection (OCP) mechanisms to control the risks are fuses, circuit breakers, relays, and current limiters are commonly used.

*Partial Discharge*

In a high voltage environment there is more chance of an insulation system not being able to cope with the electrical stress and it can break down, causing partial discharge. Simply put, voltage spikes can cause partial discharges in the insulation system. In accordance with the provisions set forth in the IEC 60270 standard, partial discharge is defined as a localised electrical discharge that only partially bridges the insulation between conductors. This phenomenon may or may not occur in proximity to a

conductor, contingent upon the presence of an impurity or cavity within the insulation, or the emergence of a protrusion outside of it.

The term 'partial discharge' is used to describe the generation of an electrical discharge, which can be defined as the release and transmission of electricity in an applied electric field through a medium within an insulation system (Geophysics Study Committee, USA, 1986). This occurs due to the presence of voids, cracks, or other defects within the system. Whenever partial discharge is initiated, high frequency transient current pulses will appear and persist for nanoseconds to a microsecond, then disappear and reappear repeatedly as the voltage sine wave goes through the zero crossing. The partial discharge happens near the peak voltage both positive and negative.

Just as partial discharge signals future electrical failure, minor emotional disturbances can indicate deeper, unresolved psychological issues. In electrical systems and personality dynamics, the unchecked progression of minor issues can result in more significant problems. Both emphasise the importance of recognising and addressing smaller, seemingly insignificant issues before they escalate into more severe problems. In equipment failure, for example, failing to address partial discharge can have serious consequences. Similarly, in the context of mental health, the failure to address minor stressors can have significant negative effects.

## 3. PERSONALITY DYNAMICS

The processes in the human body, especially those related to personality dynamics, are quite complex and sophisticated. Contemporary science has yet to fully elucidate certain fundamental questions, such as the precise conditions required to form a new conscious body and the precise mechanisms by which DNA material is stored and unpacked. How might the body and consciousness come to an end, what is happening to a person's memories, talents and desires, when we consider the law of energy conservation - the energy processes have no beginning or end, and only transform in forms.

The current Thesis' materials may be of assistance in understanding those personality dynamics, using the analogous processes, which have been the subject of much study and are clearly presented in fields such as physics, chemistry and engineering. It may be possible to perceive identical processes in personal development and in the social environment, using the Outside-In paradigm. It is noteworthy that a number of processes, including conductivity, resonance, overcurrent, resistance, magnetism and insulation, exhibit striking parallels in the context of personal dynamics.

It is evident that the energy processes occurring within a human being are distinct from those observed in an atom or a machine. Nevertheless, the personality dynamics of an individual as a biological entity will exhibit analogous components and levels of energy processes, including the core, the functionality, and the force field, as a result of interaction with an environment. The aforementioned characteristics were previously discussed in the context of both artificial man-made creations and atoms.

At the dimension of personality dynamics this study employs the same uniform graduation:

- The core, encompassing the energy source and innate resources;
- The functionality at varying energy levels;
- The force field, representing the interaction with the environment and external objects.

It can be argued that a person can be considered a matter as a body that has mass and occupies space by having volume. Therefore, personal dynamics should be viewed in two dimensions, as is the case with a matter: firstly, as a structure (the somatic body dimension) and secondly, as a wave (the psyche and emotional dimension).
The structural aspect of the matter is more prominent and visible, and therefore is better studied, thanks to the field of biological sciences. In contrast, the psyche and emotional aspect is less well developed. This Thesis brings together all the current knowledge from both dimensions to achieve a more comprehensive understanding of personal dynamics, therefore it focuses more on the wave aspect of the matter.

### *1. Core*

It is a fundamental principle of atomic theory that the core is the source of all matter in the universe. The nucleus is the centre and the main energy source in an atom. The human body is composed of atoms, and thus subject to the same fundamental laws of physics as other matter. It also exhibits the same core properties as any atom: the fundamental energy resources are intrinsic characteristics that are genetically determined. These are subsequently organised into cells, networks, organs and systems.
Some of the core resources of personality are more of a "proton" quality. They define a person's core identity, including physically manifested traits and expressed abilities, such as the race and the original family they belong to, the gender, the proto-consciousness, innate talents, instincts.
Proton's energy is always positive, which is reflected in the unwritten rules of psychology that any personality action is undertaken with positive intentions, regardless of the outcome. As postulated by German psychotherapist Bert Hellinger, the primary tenet of the Constellation therapy approach is that all actions are ultimately rooted in a place of love, regardless of the outcome (Hellinger, 2011).
The nuclear qualities and traits are intrinsic and essential; they cannot be selected, cultivated, or changed. Instead, they can undergo a transformation, which entails a

fundamental and irreversible change in their original nature. For this transformation to occur, a significant driving force is required. In the field of physics, such a process requires radioactive exposure.

Other processes of the core part of personality are more of a “neutron” quality: untapped, not yet manifested, but potentially available, i.e. dormant genes. The core is the set of traits and characteristics that are essential and enduring throughout a person's life. These are the resources that make a person a person and a person with a basic set of settings. A computer will not be a computer without its hardware, software and processor. These are the core elements of the machine. Same a person has their core traits.

The structural core of the person is the actual body is the "hardware" of personality dynamics, whereas the wave core is the innate abilities that allow the person to function and operate - it can be considered as "software", and there is also the wave "processor" part, which is essential to regulate, control and filter the incoming and outgoing signals.

In terms of this Thesis, the psycho-emo-somatic aspects of personality dynamics can be referred to psycho - as the processor, emo - is software setting, and somatic - is the hardware base.

### 1.1. Somatic Core

According to Paul Davidovits (2019), 'electricity' is typically associated with man-made technologies such as amplifiers, televisions and computers. However, a considerable number of life processes are themselves characterised by electrical phenomena. For example, the nervous system and the control of muscle movement are both subject to electrical interactions. Technically, the somatic body can be considered a charged conductor, primarily composed of water and charged particles. All cells within the body conduct electrical currents, and thus the body, like any other physical object, experiences the same energy processes, including currency, voltage, and resistance.

Electricity is required for the nervous system to send signals throughout the body and to the brain, making it possible for us to move, feel and think. The elements of the human body, like sodium, potassium, calcium, and magnesium, have specific electrical charges.

Almost all of our cells can use these charged elements to generate electricity. The flow of charge across the cell membrane is what generates electrical currents. A disruption in electrical currents can lead to illness, for example heart attack, panic attack, headache or burnout.

There are cells that constitute the cardiac electrical system and responsible for the generation of the electric current and the propagation of this impulse to the contractile cells of the myocardium, where the depolarisation initiates the contraction (Madeiro, 2019). Muscular contraction, nerve impulse transmission, protein synThesis, etc. are processes that require energy. In cells, energy is used in the form of ATP. The release of the energy contained in ATP is carried out thanks to the enzyme ATPase, which is present in all places of the cell where energy is required. The sympathoadrenal system is responsible for mobilising energy resources. (Seluyanov, 1988)

### 1.2. Body as a Transformer

From an engineering perspective, the human body can be considered a transformer. It regulates voltage of personality dynamics. A specialist in transformer technology is likely to recommend a similar approach to that of a medical doctor, comparing power transformer health with human body health. By synThesising the findings of multiple tests, a transformer specialist can ascertain the potential defect, fault or health condition of the power transformer. (Naderian, 2020)

In some cases, this may require de-rating the transformer's planned loading capacity for normal and overload conditions. It is recommended to consider the health of the transformer for the planned loading limits. In humans the overload can be more complex, covering different levels: somatic, emotional or mental.

It is evident that there is a striking resemblance between the human exercise stress test and the heat run test, the urine protein test and a furan test in a transformer, ultrasound and acoustic emission (AE) E. The table shows the multiple medical tests which are almost identical to the tests run on the transformer machines (Naderian, 2020)

Vibration analysis in a machine thus enables the identification of excitation forces during machine operation (Kostyukov, 2011). These forces are contingent upon the state of the

machine. The knowledge of their characteristics and the laws of interaction between them enables the diagnosis of defects in the latter.

Similarly, in the human body the method of vibrational analysis allows for the diagnosis of the state of zones of excitation, "friction" and collapse associated with acute emotional experiences. The human body, as a perfect conductor, not only reflects the mental and psychological state of an individual, but it also stores past traumatic experiences that have been repressed from memory until they can be detected and processed.

In circuit design terms the traumatic experience can be seen as an extra charge stored in the conductor or a capacitor in the form of condensed energy. Vibrational analysis can help to diagnose and release traumatic memories. This approach has been successfully employed in A. Lowen's Bioenergetic Analysis, J. Pierrakos's Core Energetics, D. Boadell's BiosynThesis, L. Marcel's Bodynamics, and S.Sabetty' Life Energy therapy, among others.

### 1.3. Body as a Circuit

Kinesiology, or manual muscle testing, has revealed that specific muscles and body reflex points will yield a "weak" or "off" result when a neuro-energetic circuit has been compromised and is no longer functioning optimally (Schaner, 2023). Dr. Dean Schaner and Jenn Jessup demonstrate that stress has been proven to disrupt biological circuits in the body. This phenomenon can be conceptualised as analogous to the malfunction of an overloaded circuit, which may result in the blowing of a fuse or circuit breaker. When this occurs in the human body, optimal bodily function is compromised, and symptoms manifest. With the perspective on biotechnology, Dr. A.H. Alrawi espouses a similar viewpoint: the human body may be conceptualised as a circuit of resistors and capacitors, connected in series and parallel (Alrawi, 2010) (Appendices, Figure 2).

Using the terminology of circuit design, the somatic body can also be seen as an inverter that can convert direct current into an oscillating alternating current. For example, food can be converted into internal energy through digestion, the same way as a chemical process in a DC battery can be converted into AC power in the circuit. To gain a deeper insight into the core of personality dynamics, it can be observed in individuals who were

raised in an environment with no human contact. While these individuals may possess certain core human characteristics, such as a proto-consciousness, a survival instinct, a capacity to protect themselves and find food, they are unlikely to exhibit more complex human abilities, such as speech, self-reflection, morality, unless they are exposed to a personal human contact and socialisation.

The core dimension distinguishes the individual as a biological human, not yet a social person. The question of personhood is not a biological one (Scott, 2022). Nevertheless, the personality dynamics are fundamentally based on the core of the physical somatic body, which serves as the foundation for the development of personality traits.

This Thesis employs terminology from the study of the evolution of the nervous system, which elucidates the principal regions of the brain that are directly associated with personality traits (Lew, 2017).

### 1.4. Brain: The Biological Core Of Personality Dynamics

Brain in humans is known for the receiving, filtering, integrating, managing, controlling & regulating functions. These are the core processes of personality dynamics.

A further brief examination of the brain's functional areas and resources reveals that it is a far more intricate and sophisticated organ than any computer. The aim of this Thesis is to elucidate the most fundamental interconnections between personality dynamics, which originate in the human body, and to examine them from an energy processes perspective. The human brain can be divided into three principal regions on the basis of functional criteria: the forebrain (prosencephalon), the midbrain (mesencephalon), and the hindbrain (rhombencephalon). While each area is responsible for distinct and important functions, this Thesis concentrates on the forebrain due to its particular relationship with personality dynamics.

The cerebral cortex is specifically recognised as the primary site for advanced cognitive processes and voluntary behaviour. The forebrain is the source of the telencephalon (cerebrum) and diencephalon. The telencephalon develops into the neocortex (cerebral

cortex), the allocortex and the striatum, while the diencephalon develops into the thalamus and surrounding nuclei. Diencephalon is also known as a subcortical structure. The interface between the two: the cerebral cortex and the subcortical structure is the limbic system. The term 'limbic' is derived from the Latin words 'limbus' and 'limbo', which signifies a border or threshold. (Wright, 2020). The neocortex is the largest part of the cerebral cortex and it is a bilaterally symmetric structure comprising two hemispheres. This structure plays a pivotal role in high-level cognitive processing, which includes emotion, language, sensory perception, skilled motor planning, attention, and other functions such as consciousness itself (Fuster, 2003).

The thalamus and hypothalamus are structures that play a significant role in perception, the regulation of vital bodily functions and movement. These brain regions are responsible for filtering and relaying information from four of the senses - sight, hearing, taste, and touch - to the cerebral cortex. Sense of smell goes directly to the cortex. Thalamus also relays sensations of pain, temperature, pressure and the peripheral nerve impulses originating from the cerebral hemispheres that initiate voluntary movement.

The hypothalamus is the brain's intermediary for translating felt-sense stimuli into physical responses. A "felt sense" is a physical sensation, not a mental phenomenon. It is a bodily awareness of a situation, person, or event. (Gendlin, 1981) It is responsible for recognising the physical signs of fear or excitement, which manifest as involuntary body functions: a racing heartbeat, shallow breathing, tremor, sweat, and a clenched feeling in the abdomen (sometimes referred to as a "gut feeling"). The hypothalamus also serves as the control centre for the stimuli that underlie eating, drinking, and the induction of sleep (Ackerman, 1992).

The limbic thalamic nuclei have been demonstrated to be involved in learning and memory processes (Mitchell and Chakraborty, 2013) and in the regulation of stress and anxiety responses (Vertes et al., 2015). It seems probable that they serve as an important node for the encoding of information from subcortical limbic structures for goal-directed behaviours (Lew et al., 2017). It is known that the emotional brain is constituted by cortical, subcortical and limbic structures (Fossati, 2012).

The septal nuclei play a vital role in the functioning of several limbic networks, forming connections with other limbic structures, including the amygdala, hippocampus, hypothalamus, thalamic nuclei, etc. Research has established that the septal nuclei play a role in reward circuits and sensations of pleasure. In humans, the septal nuclei are engaged in several socioemotional behaviours, including cooperation and emotional attachment (Moll and de Oliveira-Souza, 2009).

The amygdala plays the main role in integrating and mediating the internal environment with external stimuli. It is a crucial structure in the processes of emotion and social cognition, with the main objective is to assist in maintaining safety in potentially dangerous situations. Functional neuroimaging studies in humans suggest that the amygdala performs a parallel function in the social brain (Fossati, 2012). Several studies have shown that the amygdala is more active in response to facial expressions of fear and anger (Williams et al., 2004).

The nucleus accumbens is believed to integrate information from limbic and prefrontal regions in order to regulate goal-directed behaviour.

The ventral striatum plays a role in a number of cognitive processes, including learning and memory. It receives innervation from a number of neurotransmitters, including dopamine, which is involved in motivation reinforcement, and oxytocin, which is important in social attachment behaviours.

All the aforementioned structures and resources are inextricably linked and function as a holistic entity. It is impossible to isolate a single movement or reaction from the body as a whole. Each reaction exhibits a distinctive psycho-emo-somatic signature within an individual, all together they are forming the personality.

This notion is based on Donald Hebb's assertion in 1949 that "neurons that fire together wire together." This hypothesis has been supported by scientific evidence for over eight decades. The nomenclature for these “wires” is diverse and they may be referred to as character traits or as "radicals" (Ponomarenko, 2004). Recently, they have been designated as "affective circuits," a term coined by Jaak Panksepp (2011).

### 1.5. Psychological Core

Similar to the atomic structure, the core resources of personality can define a person's core identity, including physically manifested characteristics and expressed abilities, such as race and ancestral family, gender, proto-consciousness, innate talents, and instincts. Living from the core means accepting, trusting, and being confident and compassionate to themselves and others. Being true to oneself is being true to one's core. People living from their core can experience it as being at an essential peace, harmony, authenticity, spontaneity, and wholeness.

*Core-Self*

Dr. Panksepp posited the concept of the "core-SELF." He defined the core-SELF as an essential source of the affective circuits. In “The psychogenesis of mental disease” Carl Jung conceptualised the Self as the fundamental core of our personality, encompassing both conscious and unconscious aspects, both actual and potential forms (Jung C. G. (ed.) (1958). In Jung's view, the Self has its roots in an innate dynamic structure that integrates the essential drives of our "brain-mind" process and gives rise to both instinctive behavioural actions and archetypal psychological experiences.

Notably, recent neuroethological studies have indicated that our subjective identity is founded upon ancient neuropsychic mechanisms which humans share with other animals as part of their innate processes (Alcaro, 2017). Studies confirm that subjectivity is an inherited disposition rooted in our brains' instinctual archaic action foundations (Goodwyn, 2010). The findings corroborate Jung's perspective that prior to infants attaining reflexive self-consciousness, an innate affective form of self emerges. This primitive instinctual self-manifests as an affective-psychic intentionality, enabling meaningful engagement with the material, deterministic world.

In light of the alignment between new cutting-edge scientific research and Jung's psychological insights, contemporary science aims to investigate the initial "neuroevolutionary" layer of the human mind - the affective core of the self (Alcaro, 2017). In his subsequent work, Panksepp posited the existence of seven biologically inherited primary affective systems, which are neural networks wired together. The

affective states develop from the foundations of the core-Self. He corroborated the assertion that the emotional feelings experienced by humans are rooted in "instinctual - behavioural" neural networks (Panksepp, 2011). The concept that the core generates other systems in its vicinity as a consequence of external interactions is not a novel one. The images, archetypes, personas, and roles that individuals assume within the context of social interaction are the consequences of such processes.

### *True And False Self*

In his theory, Donald Winnicott proposes that all individuals possess two distinct selves: a true self and a false self. In a state of mental health, the false self serves as an adaptive mechanism for navigating the social norms of a given society, while the true self remains intact (Winnicott, 1960). True self is simply the authentic expression of being, free from concern for the feelings and opinions of others. The term 'true self' describes a sense of inner feeling based on a felt-sense of being truly present, alive and authentic in the current moment, it has no contradiction. In contrast, the term "false self" is used to describe a defensive facade that is used to fit into a social mindset and to meet the demands and rules of the environment. This defensive cover is used to protect against potential harm and to provide a better adaptation in society. The behaviour associated with the false self is induced and controlled rather than being spontaneous and genuine as a true self behaviour.

The true self expresses the state of being, whereas the false self is primarily focused on outward appearance. When the false self is established, an individual may exhibit a tendency to seek compensation in order to cover feelings of emptiness, fear, and boredom beneath the surface. In cases of severe mental illness, such as schizophrenia, the false self can impede and diminish the true self, leading to a disruption in spontaneous and autonomous living abilities (McKeever, 2020).

In his work, Alexander Lowen distinguished the false self as the self that is presented to the world and is located at the surface of the self. This concept opposes the notion of a true self, which is situated behind the facade or image (Lowen, 1984). In order to extend a horizon and to avoid any judgmental attitude, which can be misleading when using the

terms 'true self' and 'false self', the current work offers different terminology for the same processes described initially by D. Winnicott. In terms of this Thesis, the true self is analogous to the nucleus in atoms and can be called the core part of personality, representing innate, embedded qualities.

The false self can be seen as the cloud around the core, representing more 'electron-like' qualities - acquired skills and learned traits developed in interaction with an external environment and in relationships with other people. In other traditions, it might be called the idealised self, the superficial self, roles, persona or mask. In the terminology of this Thesis, this part of the personality can be referred to as the orbit part of personality.

Similarly, as observed in the case of atoms, the orbit is generated by the movement of the intrinsic electric charge. This movement gives rise to the formation of a magnetic field surrounding the charge, which can be understood as representing the outward flow of energy. The orbit represents the functionality of the core, which in turn creates the actual dynamics. Both processes are the crucial part of personality dynamics.

The orbit part of the personality is discussed in greater detail in the following chapter, as it represents the functional aspect, serving to protect, filter, select, adapt and integrate an individual into society, facilitating their integration into social groups. This is the aspect that distinguishes a human being as a person, with its roles and personas.

The orbit can be regarded as an unhealthy defensive facade that may result in an individual being perceived as inconsistent and inauthentic if the core qualities of the person were misread, misinterpreted and misused by the individual's closest family and society.

In the earliest stages of life, infants exhibit a state of genuine authenticity, showing up their core qualities of the personality. In this state of being, infants express themselves through spontaneous reactions of crying, laughing, and other forms of emotional response that are entirely aligned with their biological and emotional needs.

If infants are denied the opportunity to be themselves and express themselves, they learn to modify their impulses in an attempt to receive the love they crave, thereby beginning the construction of a false self, or orbital qualities of personalities in the terms of this Thesis. At extreme poles the process of adapting themselves into a societal frame

can result in a range of maladaptive behaviours in adults, including feelings of being adrift and lacking in spontaneity, as well as the development of severe psychological disorders.

### *2. Functionality of Electromagnetic Properties*

The core provides the hardware for the personality to function and act; however, there must also be an impulse and motivation to do so. Motivation represents the fundamental driving force behind all processes of personal development and the dynamics of personality. The simplest way to look at personality dynamics as energy processes of two potentials is to imply the terms of electromagnetic interactions in the electromagnetic field.

The manifestation of a motivation or a need can be understood as a voltage. The voltage arises from the difference between two potentials. In biology the concept of bioelectrical potential is used - these are electrical potentials in tissues and cells of living organisms, which are associated with the processes of excitation and inhibition in animals and humans and irritation processes in plants.

In neuroscience, the difference between two potentials is called depolarisation, which is the process of converting the potential energy of ions (i.e. voltage) into kinetic energy (i.e. current/velocity of the ions) by making the membrane more permeable to more ions. (Ju, 2021) The potential difference gives rise to the current, which can be experienced in a living organism as a wave of an impulse and vibration.

Neurons communicate in units of electrical activation called action potentials. A neuron receives chemical input through its dendrites and processes this input in the cell body. The charge between two potentials creates an electrical impulse. The term “electrical impulses” is used to describe the electrical signals generated by neurons, which facilitate communication within the nervous system. In neurons, the energy of a chemical reaction is converted into electrical energy, which is transmitted from cell to cell through electrical impulses.

Neurons facilitate the conduction of electrical impulses through the utilisation of the action potential. This phenomenon is generated through the flow of positively charged ions across the neuronal membrane. Once the excitation potential reaches the threshold level, the release of accumulated energy can be perceived and observed as heat, condensation, smell, muscle vibration, and movement.

The interaction of the action and rest potentials ignites an impulse (charge), creating stress (voltage) that drives the movement (current). In other words, the impulse creates a wave of pulsation and oscillation, known as vibration. This process is essential for the transmission of information (electrical charge) from one part of the body to another, including sensory input such as sound waves.

Any electric current that moves creates a magnetic field around itself, making it possible to transmit information around the conductor (the body). Magnetic induction makes it possible to transmit impulses and information to other bodies, wirelessly, using sensors, for example in the form of light (image), sound (audio) or heat (tactile experience). At least seven senses are known to the human body which can pick up external signals: sight, hearing, taste, smell, touch, vestibular (coordination) and proprioception (awareness of surroundings).

The electrical activity of the brain, which recognises and regulates all the senses can be quantified through techniques such as electroencephalography (EEG), because, as any other physical object, the human body has its electromagnetic properties of matter, such as conductivity, resistivity and susceptibility (permeability/permittivity).

### 2.1. Conductivity, Resistance, Susceptibility

In personal dynamics, the current flowing through conductive material can be viewed in the perspective of the three-dimensional PES model (psycho-emo-somatic):

**Somatic** are energy processes in the body, such as firing neurons and charged neurotransmitters moving through blood vessels and neuropaths, which are actually "wires" - conductive pathways. This level is visible and can be detected by modern equipment.

**Emotional** - these are charged feelings and emotional flow, which can be detected subjectively or objectively through a "third person" experience, by observing body language or through a medical examination.

**Psyche** - these are charged thoughts and beliefs. Purely personal and therefore subjective material. However, modern equipment can detect thoughts to some extent.

The outcome is that the load of the flow of energy is determined by the intentions and behaviour of an individual. The aforementioned processes are made possible by conductivity.

**Conductivity** in personal dynamics will be the ability to handle the current and charge of the system. The problem in conductivity can lead to some:

- Somatic - it can be a disability of the neuro system on the physical level (young age or brain damage),
- Emotional - lack of skills and coping mechanisms, which doesn't allow a person to maintain a healthy state of mind,
- Psyche - learned beliefs and behaviour, which prevent the flow and the charge.

Those disabilities to conduct the current will create the inverse process to conductivity: the resistivity. If the conductivity allows the charge to move, to act, to achieve a goal, the **resistivity** on contraire slows down the processes. Same as in electromagnetic devices, resistivity in personality dynamics can help regulate current (movement) and voltage (force) by providing the necessary insulation (protection).
Insulation is dielectric and its purpose is to reduce or stop energy from passing through a conductor, for example, to reduce the charge coming through a nervous system. In terms of personality dynamics it can mean a healthy way of defending oneself, protecting one’s boundaries, taking time and space to make a better decision or complete a task.
On the other hand, if the resistance is too low or too high, it can cause an overheating problem, in this case a person can feel "overloaded" and "overwhelmed". For any task to

be done easily, an individual's system needs to have high conductivity and low resistance.

In the field of biology, the term "resistance" is defined as the extent to which an organism can defend itself against potential threats, measured in terms of its degree of tolerance. It is the foundation of the immune system. The act of resisting enables an individual to safeguard certain vital aspects of their life, whether consciously or unconsciously. It is therefore imperative to safeguard the specific area in the event of an elevated level of resistance.

In psychiatry resistance is understood as an unwillingness to confront and acknowledge repressed emotions and thoughts. From a more expansive viewpoint, it can be defined as a refusal to comply with or accept something, as well as an avoidance. From an energetic perspective, this point indicates the area of personality dynamics that requires protection, support, and healing.

The resistance in the personal dynamics can be influenced by a number of factors, when the split between two potentials is too polarised. For example, the split between internal needs and external demands, or split between idealisation and reality. This can develop into neurosis and form an unhealthy resistance.

In therapeutic work, when dealing with a neurotic resistance, it can be a valuable signal to look deeper into the cause event - the root of the split. The foundation for the processes of conductivity and resistivity is the energy susceptibility.

**Susceptibility** in personality dynamics can be defined as an ability and tendency to respond to an applied field. The same as in electromagnetic processes, susceptibility refers to the sensitivity to experience an external electromagnetic interference.

Magnetic susceptibility, for example, is the total amount of magnetisation in a material when a magnetic field is applied. This is caused by particles interacting with each other, as a reaction to the external magnetic field.

In personality dynamics, the ability to magnetise can be seen as the ability to resonate, attract, interact and be susceptible to external application in a form of physical, verbal, or cultural behaviour. All of the above properties can be recorded in the physical, chemical and informational forms of a charge flow - the current.

## 2.2. Current: The Movement Flow

The electrical signals that travel through the body are alternating current (AC) based: all systems in the body have cycles and the rhythmic change of frequencies. Each organ has its own wave frequency, which changes when the organ gets uncomfortable or experiences a sensation (felt sense). This allows body senses to feel the resonant frequency and react accordingly.

The human body is also capable of converting direct current (DC) into alternating current (AC) when consuming nutrients, breathing air, or releasing stored energy in the form of blocked emotions (which is a chemically bound energy).

Nevertheless, in accordance with the first law of Newtonian inertia, the direct current (DC) power itself results in a depletion and loss of energy. To illustrate, a state of constant rest, or constant work, or blocked, unprocessed emotion is equally damaging to the human system. Inertia can be defined as the tendency of mass to remain at rest or in motion in the same direction. When inertia takes over, it can result in a stagnant state which leads to a loss of power. In light of this information, it becomes evident that the AC waves are of significant importance for psychological, mental and somatic health.

In psychological terms, current can be defined as a movement. This movement is created by energy flow and occurs under the influence of a specific force, such as feeling.

In physics, the current is the rate of flow of positive charge (GCSE Physics, University of Cambridge). Electromagnetic energy flow is identical and subject to the same physical laws as a psychological flow, described by Mihály Csíkszentmihályi (1970).

The concept of psychological flow refers to a state of balance achieved between a skill and the level of challenge associated with it. This requires a considerable degree of concentration. When applied in a practical sense, flow can be used as a coping mechanism for stress and anxiety, facilitating productive engagement in leisure pursuits that match one's skill set. To be more objective, there is a comparison table of the flow

description from the psychological point of view and from the electromagnetic point of view:

*Table 2: Comparison table of the current flow description in personality (A) and in electrical circuit (B)*

| A | B |
|---|---|
| The flow is the **attention**,<br>driven by a personal **intention**,<br>when focused on **an activity**,<br>based on **existing abilities**, and **developing** into new resources, such as new **skills and talent levels**. | The flow is the **current,**<br>pushed by **voltage**,<br>that moves **in a particular direction**<br>in **a circuit, via conductor**,<br>**spiralling** to<br>higher **power levels**. |

It is a fundamental principle of electricity that any movement of charge is considered to be an electric current. This applies even when the charge is a single positive charge, such as a proton, or a single negative charge, such as an electron. Indeed, the movement of a charge results in the generation of a current.

### 2.3. Charge: The Emotion

According to A.Murphy, from an electrical engineering point of view, “If the hate could be turned into electricity, it would light up the whole world” (2022). In terms of this Thesis, he talks about the charge and the energy behind the emotion.

Dr.Kim and Dr.Hil point out that athletes often experience a surge of energy, including shaking, heart racing, pacing, vibrating sensations, and even nausea, prior to a significant event. These physical sensations are commonly associated with the release of emotions (Kim and Hill, 2022).

The American Psychological Association describes charge as a “strong emotion, such as anger, conceived as being bottled up under pressure and ready to explode” (APA

Dictionary of Psychology, 2018). The concept also involves the idea that emotions are negatively or positively charged.

The group of scientists from the Department of Biomedical Engineering and Computational Science and Brain Research Unit of the Aalto University, Finland, put forth the hypothesis that emotions are represented in the somatosensory system as culturally universal categorical somatotopic maps (Nummenmaa, 2014).

Their presentation reveals maps of bodily sensations associated with different emotions, where the charge can be visually presented in colours. The maps were created using a unique computer-based, topographical self-report method (emBODY). Topographical changes in emotion-evoked sensations in the body could therefore provide a novel biomarker for emotional disorders.

Figure 1 in the Appendices shows the emBODY tool used in the research. Participants coloured the initially blank body regions (A) whose activity they felt increasing (left body) and decreasing (right body) during emotions. Subject wise activation–deactivation data (B) were stored as integers, with the whole body being represented by 50,364 data points. Activation and deactivation maps were subsequently combined (C) for statistical analysis.

The term "emotionally charged" is used to describe a situation in which an individual is experiencing intense, unfiltered, and unrestrained emotions, which can be challenging to regulate (Picardi, 2020). These emotions are called ‘affective circuits’ in terms of Dr.Panksepp (2005). Such emotionally charged responses are preceded by a triggering event.

On the somatic level, charge can be seen as the number of activated neurons in the neural network generated by external influences (other people, nature, objects) or by needs (hunger, safety, communication, etc.), and can be seen as an impulse (charge between two potentials), which creates motivation, which drives the rest of personal dynamics.

Extensive research into the clinical applications of human emotion has provided substantial evidence to support the hypothesis that imbalances in ancient primary

emotional systems are strongly linked to psychiatric disorders such as depression (Davis, Montag, 2019).

Often emotions referred to mental states brought on by neurophysiological changes, variously associated with thoughts, feelings, behavioural responses, and a degree of hedonic content - pleasure or displeasure (Damasio, 1998; Ekman, 1994; Schacter, 2011).

Some authors point out that the primary process of emotions does not require learning. It is not necessary to teach a child to be angry, afraid, or panic when he loses sight of his parents in a crowd. Nor do we need to teach children how to play. These essential tools of life are built into our heritage. However, these evolutionary/genetic primary process emotional brain systems are not fixed functions but are capable of developing and adapting to new environmental experiences throughout an individual's life (Davis, Montag, 2019). These understandings support the notion that the psychological charge is an essential, powerful phenomenon that is preceded by a triggering event and can manifest as either a positive or negative. It arises from the main source - the underlying neurophysiological processes of the body and tends to flow towards a specific direction, whether pursuing pleasure or avoiding displeasure.

### *Positive, Negative and Neutral Charge*

Dr. Daniel Schacter, professor of psychology at Harvard University, defines emotions as "a positive or negative experience that is associated with a particular pattern of physiological activity" (Schacter, 2011). In the field of physics, the charge can be described as negative, positive, or neutral (the balance point between positive and negative). An electron carries a negative charge, while a proton carries a positive charge. Positive charges create electric fields that radiate outwards (push), while negative charges create fields that radiate inwards (pull).

Practically, emotions are also defined as positive, negative or neutral. The positive emotions subjectively experienced as pushing up, fulfilling, supporting, motivating, in opposition to the negatively charged emotions, which can be experienced as draining,

suppressing, disregarding, or even toxic. Negative charge can be also experienced by a person, giving a feeling of peace, calmness, relaxation.

The term 'charge' is also used to describe matter, whether a particle or a wave, which experiences a force (voltage, stress, pressure) when placed in an electromagnetic field. Emotion can be considered the charge because it forms under the influence of a specific force applied to the current matter. This force could be an intervention of various kinds, including physical contact, verbal communication, situational impact, and other force influences.

### *Charge and Time*

The aforementioned description of psychological charge is in alignment with the criteria for a physical charge in an electromagnetic field. Same as an EM charge, the psychological charge involved in the processes of resistance (regulation), capacitance (window of tolerance), voltage (force), load (behaviour) and current (flow).

Charge is directly proportional to current - the charge per time:

$Q = It$

*Electric charge = Current x Time*

This means that time affects the current and charge, time can reduce or increase them.

The intensity of the emotion is directly proportional to the voltage of the charge, which means that the emotion is directly proportional to the intensity of the experienced feeling. It can be described by the equation

$Q=CV$

*Charge = Capacitance x Voltage*

Psychologically speaking, this means that the rate at which the emotional charge is released depends on the individual's ability to cope with stress.

A comparison of the two formulas reveals a clear correlation between the duration of a task, the current or charge, and the amount of work performed. As the time required for a task increases, the current or the charge decreases, and the amount of work done in the present moment also decreases.

This relationship explains the therapeutic recommendation for patients with procrastination: to reduce internal stress and pressure (voltage), they need to break the task into smaller pieces and allow more time to complete the task. This will relieve tension and release more energy to complete the task, because:

E = VQ

*Energy = Voltage X Charge*

Which is in fact:

E = V x I x t

*Energy = Voltage X Current X Time*

However, this also means that if there is no precise time limit, the intention (voltage) and the energy given to complete the task may be too low, leading to a loss of charge (motivation) and flow. This formula explains the famous quote: "A dream without a plan is just a wish".

We can also use the word work instead of the word energy, because work done = energy transferred, so you might see the equation

E = VQ

*Energy = Voltage X Charge*

written as:

W = V x Q

*Work = Voltage X Charge*

In psychological terms, the above formulas explain the process of personal success in life: "A dream written down with a date becomes a goal. A goal broken down into steps becomes a plan. A plan backed by action makes your dreams come true." — (Reid, 2023).

In physics, the term "charge" is used to describe the amount of subatomic particles present in a given system or process. It is a scalar quantity, which means that the charge carried by a body is equal to the algebraic sum of all of its constituent positive and negative charges. The greater the number of particles, the greater the charge.

In personal dynamics, this phenomenon can be observed when an individual experiences a sudden intensification of emotions, which cannot be discharged constructively. For instance, individuals who refrain from expressing anger may only be able to do so for a limited time. When the intensity of negative emotions reaches a level that exceeds their capacity for tolerance, the individual will be unable to contain their anger and it will manifest in an outwardly disruptive manner.

The law of conservation of energy posits that energy cannot be created or destroyed. This is relevant to a charge, as it implies that it does not cease to exist; instead, it can transform into a different form or be transferred to a different object. In the case of an anger charge, there is no benefit in holding it in; it will not disappear. It is, however, more constructive to transform the charge into productive work, such as creativity, group work, sport, or sexual activity. The worst case scenario for the anger may be to transfer it onto another individual or object, which may manifest as verbal abuse or physical violence.

The most effective approach for addressing psychological or mental distress is a core transformation, which entails a qualitative change in an individual's energy through a conscious realisation and understanding of their dynamics and needs. This process discharges the initial affective circuit of anger. In such a transformation, the psychotherapeutic process transforms the affective limbic patterns by reprocessing them with conscious intent by the frontal lobes mechanisms.

It is the frontal lobes that facilitate goal-directed behaviour by selecting and coordinating actions. This region of the neocortex enables the human executive function, which manages complex processes such as learning, reinforcement, decision-making, and task switching. Using these cognitive and will functions, a person can change the affective behaviour.

### *Active and Reactive Charges*

The neuroscientist and psychobiologist Dr. Jaak Panksepp is credited with the coining of the term "affective neuroscience" (Walker, 2017), which studies the neural mechanisms of emotions. In his foundational research "Affective neuroscience: the foundations of

human and animal emotions" (Panksepp, 2005), he posits that emotional responses are indicative of our capacity to subjectively perceive specific states of the nervous system.

Parksepp's affective circuits correlate with the research of predictive and reactive control systems (PARCS) by the group of scientists from Netherlands, France and Germany: Mattie Tops, Hans IJzerman and Markus Quirin (Tops, 2021). PARCS theory provides the theoretical basis for understanding the organisation of personality functioning.

According to the PARCS theory, two large-scale cognitive-affective brain networks, broadly understood as predictive control (PC) and reactive control (RC) systems, have developed differently in each hemisphere during evolution. These networks aim to control behaviour in predictable and stable (PC) versus unpredictable and changing environments or circumstances (RC). PC uses internal models formed by learning in predictable environments to predict optimal behaviour in specific situations, whereas RC uses feedback-guided control in unpredictable environments.

In healthy personality dynamics PC and RC can interact and collaborate, dynamically changing their relative contribution according to the evolving circumstances and tasks.

In polarised personality dynamics, the differences between PC and RC can be seen to the degree of a liberalism (high updating - terminology of PARCS) or a conservatism (low updating). Neural systems can reveal and even foresee both stable differences. This makes a neural systems approach particularly well suited to predicting the dynamics associated with personality. (Tops et al., 2021).

The relevance of PARCS theory to the dynamics and development of personality in environmental conditions can be extended to psychopathology, which is generally expected to be associated with low access to flexible PC resources. Low flexibility, same as the ability of the nervous systems and personality dynamics to adapt to changed conditions leads to a higher reactivity.

Body reactivity is usually understood as the functional ability of the body to respond appropriately to environmental influences, such as physical or psychological triggers (Salomon, 2013). It can range from homeostasis to a fight-flight response. Body reactivity should not be confused with resistance, the body's physiological stability, and immunity to the effects of pathogenic factors.

The same processes would apply in personal dynamics: reactivity is the ability to experience, cope with and adapt to new environments, where resistivity is protection against potentially harmful features: other people, actions, and relationships.

The reactivity process can be easily seen in physics, particularly in atoms, related to their ground and excited state energy levels. Atoms with incomplete shells tend to be less stable and more reactive. Any unstable atom will attempt to achieve a more stable, complete outer shell through chemical reactions to return to a "comfort zone" - the neutral state.

When a charged particle is displaced from its "comfort zone" position (e.g. by induction, a trigger), it creates a vibration in the system, which is the reactivity process. As the frequency increases, the inductive reactance increases and the capacitive reactance decreases.

In the field of chemistry, the term "reactivity" is used to describe the extent to which a given substance undergoes chemical change when combined with another substance. In the field of physics, the term "reactivity" is used to describe the change in current, which acts to oppose this change. It is primarily generated by inductive (external power supply) and capacitive (own power bank) loads.

Resistance is defined as the opposition to a flow of current, the purpose is to stop the flow and to protect the system; whereas reactance is defined as the opposition to a change in current with the purpose is to cope with the changes.

Reactive power in a circuit board is the alternating current flowing back and forth. Reactance does not result in the dissipation of electrical power as heat, unlike resistance, which does. Instead, reactance holds the power and returns it to the circuit, but does not create a heat and does not contribute to the performance of tasks.

An ideal resistor is defined as having zero reactance, which indicates that it can completely stop the flow of current. This implies that there is no possibility of reactance occurring and, therefore, no reactivity. In an ideal alternating current (AC) circuit, when there is no interaction and change, the voltage and current are in phase, and there is no reactive power flow. However, it should be noted that the voltage and current are not always in phase, and the reactive power flow can be inductive or capacitive.

The introduction of inductance into a circuit results in a phase shift between the voltage and current, whereby the two do not cross zero simultaneously. This phenomenon is known as "out-of-phase" behaviour. When a circuit contains an inductive component, the current (iL) lags behind the voltage by one-quarter of a cycle due to the reactance.

As with resistance, higher reactance results in lower current for the same applied voltage. The reactive power formula is

$Q = V \times I \times \sin(\varphi)$

where Q is the reactive power, V is the voltage, I is the current, and φ is the phase angle between the voltage and the current.

Reactive power is energy that is reflected back to the grid. This energy cannot be used by the load, but it raises the voltage. This process is opposed to active power, which is the actual, usable power that is consumed by the load.

PARCS theory is about predictive and reactive control systems that control emotional states. Just as in physics, where resistance and reactive power are built into mechanisms of regulation and control of power in the form of current and voltage.

In the context of personality dynamics, reactive power could be proposed as the pure charge—an affective and emotional response to a change in the environment. The objective is to make the system aware and enable it to cope with potentially dangerous input. An individual's reactive energy serves to increase the voltage, thereby indicating an impulse to reflect and react.

However, due to its opposition to the actual change in the current, it only results in a coping mechanism and compensation to evade the shift. Individuals exhibiting reactivity resist change and attempt to maintain the status quo. It may be posited that those exhibiting such dynamics are more inclined to adhere to a conservative mindset, as postulated by PARCS. Reactivity processed at the subcortical level (Felton, 2022).

In contrast, an "active power" may be defined as a cognitive emotion, characterised by a level of awareness and readiness for tangible change. This process gives rise to a regulated expression of deeper feelings and a more conscious response to the altered environment. The active power process is subject to regulation by the frontal lobes of the cerebral cortex.

It is essential to distinguish between affective and cognitive issues within the brain even though they are closely intertwined in our higher brain functions. Our subcortical affective capabilities significantly enhance our cognitive abilities, with profound implications for human welfare and happiness (Panksepp, 2011).

### *Difference Between Emotion and Feeling*

In psychological terms, when the charge is considered the emotion, then the force behind the charge is a feeling, arised from the bodily senses. This differentiation between feeling and emotion is crucial for the purposes of this Thesis, as it helps to clarify the deepest parts of personal dynamics.

It is unfortunate that, thus far, there has been an official psychological understanding that suggests emotions are primal to feelings. This assertion may give rise to confusion and misleading in the context of psychotherapy, particularly in self-/other- perception and accuracy of the therapeutic interventions.

The difficulty in identifying emotions and feelings accurately lies in the challenge of distinguishing between bodily sensations on one hand, and mental processes on the other. Emotion serves as the mediator between biological sensations (felt sense, feeling) and cognitive regulation. Cognitive awareness facilitates the recognition of bodily sensations and the assignment of an emotional tag, thereby categorising the sensation as an emotion.

As elucidated by Dr. Pert, feelings directly impact the electrical frequencies generated by the body, thereby producing a form of nonverbal communication. Consequently, emotions cannot be reduced to mere chemical reactions within the brain. Rather, they are electrochemical signals that convey emotional messages throughout the body. (Pert, 1999).

## 2.4. Voltage: The Feeling

It is crucial to distinguish between a feeling and an emotion, arguably one of modern psychology's most perplexing definitions. In this Thesis, emotions are conceptualised as a charge underlying any thought and behaviour. This charge may be either reactive (affective emotion) or regulative (cognitive emotion).

Feelings are the energy that underlies emotions. Feelings are an integral part of an emotional state, and analogous to voltage in physics (energy per charge). They represent the energy within the emotional charge.

As is the case with all voltage processes, feelings are created by the difference between two potentials. In personality dynamics, this process can be observed as a duality, leading to a potential change. The greater the potential change, the higher the voltage. The catalyst for change may originate from within, as a result of a conscious decision or an unconscious need, or may be induced by an external source or an environmental factor. Upon becoming aware of the discrepancy in the applied charges, whether consciously or unconsciously, the individual may perceive the situation as a duality process, whereby the individual is forced to reconcile the incongruence between the applied charges and their own perception of the situation. This can potentially lead to anxiety.

In an electromagnetic field, the charge is understood to depend on the voltage, and is thus conceptualised as the force that exerts pressure on the electrons. In the context of personality dynamics, voltage can be perceived as a subjective sensation that may lack objectivity and comprehension, yet it is nevertheless potent.

An illustrative example is the feeling of an unidentified but powerful impulse to act, as when one might say, "I do not know why, but I feel it needs to be done." This can be conceptualised as a desire, a motivation, or an impulse, representing the underlying energy driving an action or thought. Some individuals utilise the term "gut feeling," "intuition," or "instinct" to describe this process.

The presence of an unconscious and unclear feeling can result in elevated stress levels when it encounters cognitive control and becomes in conflict with it. It is crucial to recognise that the notion of feelings as a form of voltage is not inherently positive, negative, or neutral. It is also indisputable that a person's feelings are an integral and essential aspect of their identity. Evaluation and judgement become apparent only at a subsequent stage when a feeling is identified as an emotion.

To elucidate the distinction between the emotion and feeling, one may utilise a circuit diagram as a model. The polarity of a voltage is indicated by the use of the "+" and "-"

symbols; however, this does not signify the positive or negative attribute but rather the energy strength, which may be classified as high (+) or low (-). This is the antithesis of the charge, which can be identified as positive, negative, or neutral.

Once a feeling (energy-pre-charge) is identified as an emotion (charge) by the cognitive brain and this charge is labelled as either "negative","positive" or “neutral”, it may not align with cognitive consciousness, which can be based on past experience, hard beliefs, or a social frame of reference. In such instances, the feeling becomes in conflict with cognition, which exerts greater pressure (or a higher voltage) on the emotional part. This process can lead to a neurotic disorder, when “want/do not want” (feeling/voltage) is in conflict with “must/have to” (cognition/resistance).

Energy transmission can be utilised to perform work, so power is also a measure of how quickly this work is completed.

In

$P = I2 R$

Power is directly proportional to Resistance ( Current Constant throughout the circuit ).

In

$P = V2 / R$

Power is inversely proportional to Resistance ( Potential difference constant throughout the circuit ).

The application of a higher voltage facilitates the transfer of power to perform the required work. However, this also generates stress and pressure on the structure and the process itself. The energy process can be described as the transfer of charge between two potential states:

$E=qV$

In this model, an electric charge (q) gains energy (E) after traversing a voltage (V). No energy is generated in the absence of voltage (or stress).

From a psychological perspective, it can be posited that an individual's capacity for energy gain is contingent upon pressure, which can be felt as impulse, motivation, instinct, or stress. The distinction between healthy and unhealthy pressure or stress hinges on the characteristics of conductivity, resistance, and susceptibility of a person. A

more efficient "conductor" (i.e., a more robust and flexible nervous system) and a larger "capacitor" (i.e., the window of tolerance) are required to accommodate greater pressure and to store more energy.

A reduction in electrical voltage is perceived as a safer option by the majority of people. In psychological terms, a reduction in stress levels results in fewer issues for psycho-emo-somatic dynamics. However, a reduction in voltage also results in a reduction in engagement, involvement and drive, which in turn results in a slower flow of energy and a reduction in the power to perform the action. To illustrate the lower voltage lifestyle, it can be described as a period of rest, relaxation, sleep, and laziness.

An unhealthy process in personality dynamics is apathy and depression, whereby an individual lacks the sense of empowerment to engage in life. This can be observed as a consequence of an individual's inability to cope with the elevated stress levels and accelerated pace of modern life, which can result in a reduction in energy levels, accompanied by a lack of motivation, enthusiasm and the capacity to appreciate the present moment. This energy level is analogous to the so-called 'ground state' observed in atomic systems. This represents the level of mere survival, rather than a state of living fully and joyfully.

The 'ground state' lifestyle can be explained by the fact that low-voltage systems inherently consume less energy. This allows for the conservation of energy, which can then be allocated to more crucial survival needs. However, when the voltage is low, it requires a greater current to produce the same power.

### 2.5. Power: The Change And The Work

Power in physics is expressed as the product of voltage and current:

$P = V I$

Translating these physical processes into psychological terms, a fundamental rule must be applied: to achieve a desired change (power), one should combine intention (voltage) with action (current).

If an individual possesses motivation, which may manifest as an aspiration or a vision, yet lacks the requisite action, the desired outcome will remain unattained. There will be

no new beginnings, no results, no tasks completed, and no transformation of one's life. Antoine de Saint-Exupéry similarly articulated this concept; he observed that "a goal without a plan is just a wish."

Energy transmission can be utilised to perform work, so power is also a measure of how quickly this work is completed.

Furthermore, a motivation that lacks an appropriate activity drains the energy and diminishes power. Such personality dynamics frequently manifest as anxiety. Anxiety can be conceptualised as a need for action that is suppressed by resistance, resulting in the accumulation of energy without a clear outlet. This state can result in an increase in the overheating of the system, potentially leading to a depressive episode or a state of burnout.

This process can be expressed by the formula:

V= IR

where voltage (V) is the force or a heat depends on the current (I) - an action and on the resistance (R), which can be represented by a control or a filter, which person applies to their behaviour, emotions or cognitions.

### 2.6. Resistance: Protection And Control

Resistance is a fundamental and inherent property of any conductor, which can be any matter in the form of particles or waves. The human body has a measurable resistance, as do the waves of human emotion or thought.

In electrical devices resistance can be managed by:

1. Conductivity of matter
2. Insulation of the conductor
3. Resistor as a passive component of a circuit

In personality dynamics the processes are the same.

*Conductor*

The term "conductivity of matter" refers to a substance's ability to allow energy to pass through it. This phenomenon can be observed in the "wires" or conductive pathways that

exist at each level of the psycho-emo-somatic spectrum. These pathways encompass the routes and connections of the somatic body, emotional charges, and pathways of the mind, which include informational channels in various formats, such as sound and light.

*Insulator*

The function of an insulator is to impede the flow of current through a given circuit. Insulation provides enhanced safety against overheating and increases the capacitance of the object. In the context of personality dynamics, the concept of insulation is exemplified by the notion of personal boundaries. Boundaries provide protection against internal and external pressure, assist with stress regulation, and regulate the balance between external and internal processes.

Same way as electrical cables, going from home to home, placed on the poles in the air as high as possible from the ground, where the air plays an insulation role to the electromagnetic field of the cables, the same way a person can use some personal space and time as a form of personal boundaries.

In an ideal insulator, electric charges are absent, and neither reactivity nor partial discharge can occur. The objective is to maintain personal dynamics in a state of equilibrium. However, this approach also has the effect of isolating the individual from a range of challenging experiences needed for learning, with the intention of preserving the status quo and maintaining the integrity of the comfort zone.

In terms of biology, adipose tissue, comprising fat and collagen cells, serves as a heat insulator. This layer is situated in close proximity to the muscles. Myelin is a biological insulating layer, or sheath that forms around nerves, including those in the brain and spinal cord. It is made up of protein and fatty substances. This myelin sheath allows electrical impulses to transmit quickly and efficiently along the nerve cells.

Similar to the insulation around the wires in electrical systems, glial cells form a membranous sheath surrounding axons called myelin, thereby insulating the axon. This myelination can significantly enhance the speed of signals transmitted between neurons (known as action potentials), which in turn facilitates the dynamics of focus and attention in an individual.

Basically, insulation helps the electromagnetic field to focus and orient the energy in a specific direction. Insulation supports the resistance.

*Resistor*

In more advanced circuit design, the process of resistance is regulated by particular elements - resistors that control the flow of electric current by regulating and limiting the load. In personality dynamics the resistor is a learned awareness of own capabilities, limitations and responsibilities. Mentally healthy adult individuals possess the ability to distinguish the “load” and are able to make informed decisions about the responsibilities they undertake. When a person becomes aware of their own reaction to change, they can develop their resistance into a conscious ability, similar to a regulated resistor. This makes the person more stable, balanced, and trusting of their inner processes and their own power.

In summary, as a personality dynamic, resistance can be seen as a cognitive control process of dividing, filtering, selecting, analysing, terminating, regulating, limiting and protecting. Resistance helps to slow down the flow - the incoming change - and to understand the consequences, making the response to it more adaptive and safer. Every sensation and feeling must pass through the control of the mind to be recognised as an emotion and evaluated for further action.

Electrical resistance is a measurement of the difficulty with which electricity can pass through any particular component of a circuit. The main function of the resistance is to prevent current from causing energy to be converted into heat when passing through a conductor.

Resistance is equal to voltage across the conductor divided by the current flowing in the conductor:

$R=V/I$

An increase in resistance results in a reduction in the flow of electricity, which is reflected in a decrease in the current. This can be conceptualised in psychological terms as a person exerting control over a process, which in turn increases the tension and slows down the movement.

Knowing that the formula of a current is a charge per time:

$I = qt$

It is understandable that resistance can depend on the time frame. Allowing more time to push the current can reduce the resistance level. In other words, if an individual has a longer timeframe to consider or process the task, the resistance level will be diminished, provided that the pressure (or voltage) remains constant.

In electrical engineering, it is a well-established principle that the longer the wire, the higher the resistance. In the context of personal dynamics, this phenomenon can be exemplified by the observation that when the desired outcome is perceived as being too distant to attain, it gives rise to a greater degree of resistance to completing the task.

Sometimes, reducing the voltage (i.e., the amount of stress, demand, and pressure) is necessary to reduce resistance. This can be achieved by dividing tasks into smaller portions, with each portion constituting a closed circuit — a closed gestalt.

On another hand, with the same voltage (stress, tension) the resistance can be reduced by slowing down the flow (current).

In psychology, resistance is often viewed as an unfavourable process, as it hinders the desired change. In his initial conceptualisation of psychological resistance, S. Freud proposed that patients may unconsciously maintain their psychological or mental disorder through tenacious and critical objections, thereby repressing distressing thoughts, emotions and experiences as they are elicited by environmental change or by a therapist (Freud, 1920,1940).

Freud's theory postulated that psychological resistance is a passive, unconscious and spontaneous process. This inherently assigns liability to patients for their inability to accept appropriate treatment, characterising this as an avoidance strategy. The theory did not consider the possibility that patients may have deliberate, conscious concerns regarding the treatment that constitute the source of their psychological resistance. This healthy resistance process is referred to as 'realistic resistance' (Austin, 2017).

An understanding of the physical properties of resistance facilitates a more profound comprehension of the psychological processes that underpin it. In particular, this understanding enables us to perceive resistance as a protective and regulatory

mechanism of the psyche. From the perspective of the psychotherapist, resistance can be seen as an indication of a vulnerable and weaker aspect of the client's psyche, which requires respect and healing through more attentive and skilful care.

Furthermore, resistance indicates the presence of an intensive charge that demands release before any subsequent processes of psycho-emo-somatic dynamics can be undertaken.

Some authors, such as Van Denburg and Kiesler, suggest that the quality of resistance can manifest as either state (temporary) or trait (enduring) resistance (Denburg, 2002). In psychotherapy, state resistance can be elicited through provocative issues. In contrast, trait resistance can be perceived as a fundamental aspect of an individual's character, manifesting as a more deeply rooted personality pattern. This theory reflects knowledge of the core and cloud levels of the atom, where the core qualities are innate, and the cloud level is more reactive and divided into a ground and excited state.

It is essential to remember that the higher the resistance, the higher the heat production. Psychological "heat" can manifest itself as an intense feeling, such as anger or a loss of thought, and somatically as high blood pressure, headaches, or muscle tension and sweat. Psychotherapists who are aware of these symptoms will better understand the patient's condition and allow for the process of healthy resistance, the ability to say "no", as a safety mechanism.

In order to cope with this process, it may be helpful to develop a higher capacity. The ability to keep current and voltage under control determines a person's susceptibility to stress.

All components and wiring are rated to be suitable for anticipated voltages and current levels, so the current load is under the limit. In the human psyche the fuse function is the ability to say “no”, to stop an activity before developing a dysregulation or even overload: going into a shock or freeze. Same as mental health relies on an individual window of tolerance, in other words - the capacity.

### 2.7. Capacity: The Container

In the human psyche the ability to contain external and internal signals (impulses, feelings, emotions, thoughts) is the main regulatory mechanism. Containers are specifically useful for people with anxiety as an inability to cope with higher stress.

Although a certain degree of stress can be beneficial in the short term by enhancing our senses and providing motivation, prolonged exposure to elevated stress levels can have adverse effects on health. Prolonged exposure to stress, whether intense or frequent, has been linked to an increased risk of developing mental and physical health issues. These include anxiety, depression, cerebrovascular accidents (strokes) and myocardial infarction (heart attacks). By utilising appropriate stress management resources, such as the ' stress container ' technique, provided in a form of MHFA (Mental Health First Aid) Course by Al Chester (Chester, A. (2021), stress levels can be reduced, thereby enhancing overall mental and physical well-being.

Another psychotherapeutic method of EMDR employs a specific "container technique" that seeks to provide additional space for the expression of feelings and to regulate processing, thereby safeguarding clients who may experience difficulties in managing stress during or between sessions.

The inner container is a felt experience of the "window of tolerance"—the concept developed by psychiatrist Dan Siegel. Containing is a psycho-emo-somatic process which is subjective, although a person can feel and distinguish the inner frames of the container.

The container helps to communicate with the body's sensations and to acknowledge emotions or experiences in order to return and deal with them at a less turbulent time and at the individual's own pace.

In electrical circuits, two distinct types of containers are recognised. Both are capable of storing energy, albeit in different forms. The first is the capacitor, which stores energy in the form of an electric field, thereby opposing any change in voltage. The second is the inductor, which stores energy in the form of a magnetic field and opposes any change in the current.

The psychological implications of these energy processes can be elucidated by considering the container's capacitor and inductor types. The capacitor type is conducive to reducing stress intensity, whereas the inductor type facilitates the balance of change speed. From a therapeutic perspective, two distinct approaches can be identified, yet both processes ultimately concern therapy's safety and regulatory aspects.

### 2.8. Energy Levels: Levels of Intelligence

In the context of personal dynamics, analogous processes can be observed, comparable to those occurring at the ground level in atoms or at low voltage in a transformer winding. In the atomic core structure, each electron occupies the level closest to the core, which is the lowest available energy level. This is done in order to minimise the overall energy of the atom, unless energy is provided from an external source. Due to their external charge, the electrons change the level to a higher one.

So called orbits in atomic structure correlate with a person's energy levels, representing the quantity and quality of personal resources, social network and relationships. In atoms, the inner layers are more stable and safe in relation to external impact. The outer layers of electrons have more reactive nature, which in personality dynamics might represent adaptability in response to external exposures and impacts. The excited state in personality dynamics are highest levels of life activity, creativity, excitement, manifestation of self, popularity among others, abundance of social connections.

The ground level mostly represents an energy-saving behaviour in humans, which may be conceptualised as survival mode or discharging and resting mode, contingent on the individual's attitude. Ground level can be compared to the lowest point in exhalation, characterised by minimal movement and minimised expenditure of energy, lowest oxygen level. This may manifest in the psyche as a state of profound relaxation or a state of intense fear preceding death. The individual's attitude is contingent upon their subsequent actions and their deeper agreement with the process.

This dynamic contracting-expanding model can be demonstrated more effectively within the context of business processes. Subsequently, a business may enter a period of

decline, consolidation, or even stagnation following an expansionary phase. Such circumstances may evoke a sense of decline among employees. In the event that the business is not stable and the leader perceives the contractionary process as a threat, resulting in a sense of helplessness to maintain the status quo, the struggle to cope with the situation may result in the loss of the business. Conversely, if the business is stable and the leader is confident, the contractionary process does not evoke fear but is viewed as an opportunity for reorganisation and restructuring prior to the commencement of a new phase of development.

The dynamic process of oscillatory movement, characterised by a transition from a state of ground-level stability to a state of heightened excitement and back to ground-level stability once more, is a natural movement of alternating current that can be observed in the context of personality dynamics.

The ground-excited state model can be conceptualised as a contracting-expanding model as well as in the context of ontogenetic development. As children's activity grows and expands, the quality of their movements and creations also reaches a higher level of excellence. With each new skill and interest acquired, an additional layer is added to the excited state. In adulthood, this process of growth can be observed in a person through the quantity and quality of the "load" produced, including in their relationships and activities, financial stability, career development, personal growth, and so forth.

In general, the fundamental objectives of the human system, like those of any other system, whether natural or artificial, are to minimise energy consumption, release the maximum amount of energy, and continuously seek the optimal solution. These processes represent the fundamental aspect of intelligence.

The personal energy level can be seen as a comprehensive representation of personality dynamics. In the sense of this Thesis, the energy level is a spectrum of intelligence that indicates a general state of health in all three dimensions: psycho-emo-somatic. To illustrate, an individual may demonstrate advanced cognitive abilities, excelling in mathematical or business pursuits, yet exhibit somatic challenges or unsatisfactory interpersonal dynamics. Some people may excel in individual tasks but

lack the capacity to adapt to team-based environments - the capacity of social intelligence.

The concept of intelligence has been variously defined over the past decades. Hans J. Eysenck is a psychologist and psychotherapist, in his work “Concept of Intelligence”, pointed out that “usual definitions offered by psychologists” shows “examples of what intelligence might be expected to do, rather than definitions of any underlying concept” (Eysenck, 1988).

This Thesis uses energy processes to reveal the underlying concept of intelligence. Energy is a quantitative quality; an elevated IQ does not inherently correlate with a heightened energy level in a comprehensive personality assessment. In order to gain an accurate understanding of the personal energy level, it is essential to consider all quotients simultaneously, including the cognitive, emotional, socio-emotional, somatic, and collective quotients. Each quotient is associated with a specific level of consciousness and intelligence.

A misalignment between energy levels has the potential to impede overall performance. The primary aspect of performance is intelligence, which can be defined as the capacity of consciousness to adapt to change and to adapt to one's environment. (Sternberg and Detterman, 1986, 2012).

In order to gain a more profound comprehension of the concept of intelligence, it is essential to identify the specific criteria that apply to any living organism, ranging from the simplest cellular structure to the most sophisticated human being or artificial intelligence (AI) device. An intelligent system should possess the following abilities:

The following criteria are indicative of the essential characteristics of an intelligent system:

- Communication
- Cooperation
- Order and self-organisation
- Self/Learning

Ackerman, Cattell and Hebb, suggested separating intelligence-as-process, which is called fluid intelligence, and intelligence-as-knowledge, which is called crystallised intelligence (Ackerman, 1996).

According to Raymond Cattell, the creator of the 16-factor personality psychodiagnostic questionnaire, the crystallised intelligence is the result of education and various cultural influences, its main function is to accumulate and organise knowledge and skills (Cattell, 1963). Fluid intelligence, in contrast, is defined as the biological capabilities of the nervous system. This represents the fundamental level from which further levels of intelligence may be developed.

David Chalmers (1997), an Australian philosopher specialising in the philosophy of mind also posits that consciousness represents a fundamental principle of matter. The concept of core consciousness (proto-consciousness) can be understood in terms of biological survival and the most basic body functions and reflexes. This type of consciousness operates without any intervention of will and cognitive intention, akin to that can be clearly observed in a newborn child.

For example, the concept of DNA consciousness (Grandy, 2009) represents a form of molecular consciousness, which can be understood as a conglomeration of atomistic consciousness. The notion of DNA consciousness is distinctive insofar as it appears to serve as a bridge between atomistic consciousness and neurological consciousness, and is also thought to be a key driver in the emergence of neurological consciousness. Consequently, the evolution of consciousness can be viewed as a process that unfolds in a series of stages, beginning with the atom, then the DNA molecule, and finally the cell, before culminating in the evolution of neurons.

Latest clinical neurological studies support the view that consciousness is a process distributed over a large cortical network, such as the MToC - microtubule-organising centre (Friedman, Turk, Budson, 2023).

Neurological basis of consciousness (neural network) includes the paraventricular nucleus, which controls arousal and maintains consciousness. It also includes neurons in the posterior cerebral cortex, which integrate feelings and generate consciousness content. In a way it is a bridge to emotional-cognitive consciousness, which is normally

the most familiar and intriguing to neuroscientists (Young and Pigott, 1999)(Appendices, Figure 5).

Joseph LeDoux and Richard Braun provided substantial evidence that theories of emotion and consciousness have received relatively little attention from cognitive scientists. They argue against the conventional view that emotions are innately programmed in subcortical circuits, proposing that emotions are higher-order states instantiated in cortical circuits. The crux of the argument is that the distinction between emotional and non-emotional experiences does not lie in the subcortical versus cortical origin of these experiences but rather in the distinct inputs processed by the cortical network. To this end, they significantly modified a leading theory of consciousness, the higher-order theory, to accommodate self-awareness and self-regulation. The model extended to encompass conscious emotional experiences (LeDoux and Brown, 2017). They proposed the comparison of the first-order and the higher-order theories of consciousness. In the former, consciousness solely depends on sensory representations of stimuli (A). However, the latter depends on the representation of lower-order information by circuits that underlie cognitive functions, such as working memory (B) (Appendices, Figure 6).

This standpoint is in alignment with the Thesis hypothesis, which posits that consciousness is a process. The conceptualisation of division into particular levels is artificial and serves only as a basis for scientific analysis and learning. The level of consciousness serves as the foundation for the development of intelligence. There is a direct correlation between the two, whereby an increase in one is accompanied by an equivalent increase in the other.

A more detailed analysis can be conducted from the psycho-emo-somatic perspective, which takes place in a field of collective consciousness. Each of these dimensions is endowed with an intelligence.

**PSYCHE dimension** (cognitions, the analogous of software in AI) represents the layers of mental, cognitive, and psychometric intelligence. This is the realm of mind, ideas, ego states, biases, and prosocial behaviour. The Psyche dimension represents cognitive/relative intelligence (I) with the measurable scale of IQ - intelligence quotient.

The test evaluates an individual's capacity to utilise the provided matter, encompassing both the biological processes of the neural system, the person's mental abilities, and the individual's interactions with their surrounding environment.

These processes are objectively diagnosed by means of tests that assess human brain activity, including such functions as thinking (in all its forms), attention, memory, and cognitive processes. At this level, energetic processes are manifested in the form of information and the forms of its processing and transmission. These processes, which exist objectively in the present, are manifested in the present moment. It is possible to undergo transformation at this level, although it requires a lengthy training period.

In computer terminology, this is referred to as 'software', which is a set of instructions that enables the computer to perform a variety of operations.

**EMOTIONAL dimension** (psychological, analogous to interface in AI) represents emotional intelligence (EI) and social-emotional Intelligence (ESI), specifically the ability to recognise and understand one's own feelings and to adapt to a social environment. Measurable scale is EQ - emotional quotient and emotional-social (ESQ).

These are subjective processes that can be evaluated or elucidated through the administration of tests, albeit with a degree of inaccuracy, given the inherently subjective nature of each individual's perception of the world. In this context, the visibility of energy processes is limited. They can be evaluated indirectly through the analysis of the material provided by the individual in question, as well as through observation. These processes may manifest at different points in time. To illustrate, flashbacks and fantasies represent personal psychological processes that are subjective. These processes are based on experiences of the past or future, which can often result in a lack of focus on the present. At this level, transformation processes are most effective in terms of both speed and quality of transformation.

In computer terminology, it is referred to as an 'interface'. This can be defined as a conductor between the user (human), the operating system (mental functions) and the technical device (body and perceptual organs). The function of the interface is to facilitate communication and interaction between systems and applications.

**SOMATIC dimension** (physical, analogous to hardware in AI) represents the body intelligence: biological and somatic (SI). Biological Intelligence can not be scaled as it's a core ability and cannot be consciously trained as a skill. Although SQ is the somatic quotient and it offers to measure an ability to be aware of and regulate one's physical condition and motor efficiency.

These are clearly observable processes of the body (including organs and systems) that can be readily tested with the help of equipment. Somatic intelligence is based on sensing and recognition of energy processes, such as potentials, impulses, resonance, current, and so forth. The body exists in the present moment, yet it also retains the memory of an individual's entire life history and the collective memory of previous generations. The processes of change and transformation at this level are the most complex and require significant energy expenditure and time. Using computer slang, the body can be considered "hardware": the physical components within the system unit.

**The COLLECTIVE dimension** (force field interaction) is also a part of the holistic approach to personality, and represents a collective intelligence: group, mass and swarm. This Thesis acknowledges the fundamental premise that humans are social creatures and that collective entities provide a context field for the expression of personality dynamics. Continuing with the computer terminology metaphor, collective intelligence represents the domain in which the computer is used. To illustrate, a home computer differs from a computer in a hospital used for surgical procedures.

Dr. David Skrbina (2001) introduced the concept of a group mind as a derivative of the Platonic concept of panpsychism that consciousness is ubiquitous and present in all matter. Examples of Dr.Skrbina demonstrate the pervasive similarity of processes at the level of particle interaction and at the level of consciousness, personal processes, and collective interaction.

Collective intelligence can be defined as the capacity of a group to identify solutions to problems more effectively than the most optimal individual solution within that group. In this regard, collective intelligence surpasses the intelligence of any individual within the group.

*Holistic Intelligence*

It is imperative to emphasise that a holistic and comprehensive understanding of personality dynamics is predicated on the recognition that all psycho-emo-somatic processes and collective fields are inseparable, interwoven, and interdependent, thereby defining each person as holistic and unique.

For example, collective intelligence serves as an essential component of personality dynamics at the group level. Each individual is a member of a group, whether it be a family, a profession, a hobby group, or a sports team. As with other forms of intelligence, such as bodily, mental, and psychological intelligence, collective intelligence is a crucial and indispensable aspect of personality.

In light of this argument, it is logical to propose a new conceptualization of intelligence as the sum of quotients of each dimension, which could be termed "holistic intelligence."

The assessment of unique holistic intelligence can facilitate the identification of an individual's overall and specific energetic levels, which can inform the selection of more efficacious psychotherapeutic interventions.

*Biological and Somatic Intelligence*

According to Dr. J.Bruner (1956) American psychologist, who is specialising in mind processes, nothing can be incorporated into thought without first passing through the senses and especially motor activity directed towards the external world.

Dr Alexander Lowen (1963), an American physician and psychotherapist, in his Pyramid of Personality Hierarchy, posits that the fundamental basis for emotional and ego processes is located at the base of the energetic processes, with basic body movements representing the core stage (Appendices, Figure 7).

H. Eysenck (1988), the head of psychology department at the University of London, Institute of Psychiatry, also stated that biological intelligence is the foundation for psychometric and social intelligence. He asserted that biological intelligence is the fundamental aspect of intelligence. According to Eysenck, biological intelligence refers to the structure of the human body, nervous system and brain, its physiology, biochemistry, and genetics which are responsible for the possibility of intelligent action.

H. Eysenck posits that intelligence is the same as any other scientific concept such as gravity, electricity, or chemical bonds. The fact that they are not visible, not tangible, and therefore, according to some opinion, not "material," does not negate their value as scientific concepts (Appendices, Figure 8).

Biological intelligence is the innate predetermined ability to process information. Dr.N.Kozlov quotes David Wechsler: "any working definition of intelligence must be fundamentally biological" (Kozlov, 2022). In the terms of this Thesis biological intelligence is the core quality of a personality - a given factor that is not susceptible to alteration. It can be argued that biological intelligence is the dominant factor in all aspects of life.

The concept of biological intelligence (Edlund, 2017) is not limited to the functioning of an individual organism, but rather encompasses the intricate web of interactions within a vast ecosystem. The bacteria that reside within the gut not only facilitate the digestion of food, but also influence an individual's emotional state, mental state, and ability to cope with psychological distress.

The human body contains approximately ten times more non-human cells than human cells. Most non-human cells live in the gut. The gut-brain connection has become very popular in recent years. The Harvard Medical School author Debra Ruder (Ruder, 2017) says that it's very important for clinicians who are treating cognitive symptoms to consider what's happening in the patient's gut.

Duke University' gut-brain neuroscientist Diego Bohórquez confirms that there is a "second brain" - the enteric nervous system, which forms synapses with nerves. This revelation changes the view of how clinical psychotherapy can treat conditions like obesity, anorexia, depression, anxiety, autism, and PTSD (Eng, 2018). A distinct form of biological intelligence is **somatic or sensory-motor intelligence**. It refers to basic skills and is based on learning. Somatic intelligence is the ability to perceive the body through sensory systems, to perceive the quality of movement, and to regulate bodily state and motor activity, including through conscious manipulation of the body's functions and structures (Hill, 2015).

Somatic intelligence as a form of body intelligence is of particular interest in the context of psychotherapy. The foundation of body-oriented psychotherapy is the profound capacity of somatic intelligence, encompassing the experience of felt-sense, and the potential to influence emotional and mental processes through somatic learning, which encompasses breathing, movement, and expression. The concept of somatic or sensory-motor intelligence is directly related to the theory of motor fields (Bernshtein, 1967) and corresponds to the first stage of the cognitive development in a child from birth to 2 years of age - the "sensory-motor" schemes of Jean Piaget.

In line with the theories of J.Piaget, the progression towards further development facilitates the emergence of concrete cognitive operations and abstract thinking, which are integral aspects of the mental intellect (Malik and Marwaha, 2023). The study of mental and cognitive abilities has a long history, spanning several centuries. However, in the present era, when artificial intelligence has assumed a significant portion of mental work, contemporary science has shifted its focus to the emotional intellect.

### *Emotional Intelligence*

In the light of the current Thesis, emotions can be conceptualised as electrochemical messengers that facilitate the transmission of feelings from the body to the brain and vice versa. Based on neurobiological, psychophysiological and other multidisciplinary studies, the current Thesis suggests that somatic and physiological changes occur before experiencing the associated emotion. The interpretation of physical sensations leads to felt sense, then to feelings and then expressed in emotions.

Up until this point, there has been no unified scientific definition of emotions that has been agreed upon by the relevant academic community. It could be argued that the very concept of emotion is a relatively recent phenomenon. Before the 19th century, for instance, the term 'emotion' did not exist. Instead, a range of other terms were used to describe what we now understand as emotions. These included 'passions', 'accidents of the soul', and 'moral sentiments' (Smith, 2015).

Historically, there has been confusion about what emotions are and the constant search for a better understanding of this personality dynamic. In Ch.Darwin's (1872) publication

of “The Expression of the Emotions in Man and Animals”, emotions are defined as mental states that produce stereotyped bodily expressions. This “basic emotion” approach was criticised by W.James' (1884) in “What is an Emotion?”: bodily activity produces emotion, not the other way around. In turn, this James-Lange Theory of Emotions has been criticised by W.Cannon (1915, 1927) who posits that the body cannot cause emotion because visceral changes are too slow and too ambiguous to be perceived as such.

From a physical energy perspective, all three arguments are indeed correct. Emotions can be defined as both bodily expressions and mental states. This assertion synthesises the tenets of Darwinian and Jamesian theories.

Concerning the point of Dr.Cannon, the American physiologist, professor at Harvard Medical School, who coined the term "fight or flight response", his assertion that emotions manifest at a higher frequency than the body's rhythms is indubitably accurate. In his concern, Dr. Cannon identifies the "missing link" between the body and emotions, which is a prerequisite for further consideration. One notable shortcoming of this theory is its lack of consideration for feelings.

Conventional physics states that energy in the form of a material object is denser and has a greater mass than energy in the form of sound or information. The body is denser than feelings, emotions, or thoughts, so the body is the heaviest, and slowest, and the frequency of body processes is lower of them all.

In order to make a comparison between feelings and emotions, it is important to understand that feelings are a more enduring process and cannot be altered rapidly. To illustrate, the experience of "feeling down" can persist for days or even weeks, the same as "feeling in pain", "feeling overwhelmed", and "feeling in love" is not subject to rapid change.

Emotions manifest with greater swiftness and are susceptible to more rapid alteration. Emotions can undergo rapid and significant changes within a relatively short time frame, often within minutes. In comparison, thoughts are even more rapid and transient than emotions, undergoing change in a matter of seconds.

Thoughts or affirmations can easily modify emotions; however, modifying feelings requires a more comprehensive approach, sometimes including physical engagement. Dr. Peter Levine (1997) also asserts that in psychotherapy when working with trauma, it is of the utmost importance to allow sufficient time for the therapeutic process to unfold - “as body time is much slower than cognitive time or emotional time.”

Emotions are appraisal mental states that are brought on by neurophysiological changes. These changes are associated with a range of psychological phenomena, including thoughts, feelings, behaviour. (Panksepp, 2005; Damasio 1998; Ekman, 1994; Schacter, 2011) Cabanac, Michel (2002) proposed that emotions are mental experiences with high intensity and high hedonic content.

Hedonic content, or in other words, feelings of pleasure and displeasure, arise from bodily experiences and are appraised by somatic intelligence, which then interpreted into emotional reactions, due to emotional intelligence.

Some psychotherapists conducted further analysis of the internal processes, demonstrating that before the experience of recognition, there is an even more profound stage, a component of the process designated as the "felt sense." In his work, Dr. Eugene Gendlin, a philosopher and psychologist, coined the term "felt sense" and developed the "philosophy of the implicit." He describes it as follows: A felt sense is not a cognitive phenomenon but a physical experience. This can be defined as a bodily awareness of a situation, person or event (Gendlin, 1981).The felt-sense can be described as an intuitive body-feel for unresolved issues. Gendlin specifies that a felt sense doesn’t come in the form of thoughts or words or other separate units, but as a single, but complex bodily feeling. It has been put forth that the concept of the "felt sense" can be situated within the spectrum between somatic and emotional intelligence, and that it represents a significant potential for therapeutic benefit.

Under the current Thesis, this aspect of the intelligence spectrum is classified under emotional intelligence. This confirms that before the formation of emotions, the body's senses provide information as a felt sense and feelings, which are then interpreted by emotional intelligence. Emotional intelligence can be considered the result and outcome of both bodily and mental processes, analogous to the role of neurotransmitters in a

synapse. Emotional intelligence fully relies on the interaction of body and mind processes.

*Cognitive Intelligence*

The molecules of emotion, neuropeptides, modify the chemical and electrical properties of cells in the body and brain, which in turn influences the product of the brain, namely the mind (Pert, 1999). In turn, the product of the mind is a cognition, which is a process of learning.

Cognition can be defined as the process of filtering, selecting, and processing incoming and outgoing information. In terms of physical process, it can be seen to relate to resistance. In terms of circuit design, it can be conceptualised as a resistor, which serves to balance and regulate the charge and the voltage in the system, or alternatively, as a controller and switch, which regulates the current. The cognition process encompasses a wide range of functions, from recognising and interpreting the environment to making decisions based on available information.

Cognitive consciousness begins with the recognition of the self, through the perception of "I" and the differentiation of "I" and "not I". The process reaches a pivotal point at approximately four to six months of age, when infants begin to demonstrate an increased object-oriented focus and move beyond self-preoccupation. (Santrock, 2008).

This stage in a child's development marks the beginning of logic (Piaget, 1977). Although it takes many years of further development for an individual to reach the level of consciousness suitable for separation from parental figures, for an individual living, working, creating their own family, taking on responsibilities and engaging in psychotherapy. It is essential that persons possess an awareness of themselves and others, as well as the capacity to recognise, validate and respond to internal and external processes in a regulated manner.

This concept correlates with the view of William L. Stern (1914), German psychologist, who defined intelligence as a general ability of an individual to consciously adapt his thinking to new demands: it is a general mental adaptability to new problems and living conditions.

Cognitive intelligence is defined as the capacity of the human mind to process information, develop understanding and engage in critical thinking. It is shaped by experiences and the senses and enables individuals to navigate their environment and interact with it in meaningful ways. It is the capacity to construct new knowledge through the utilisation of existing information. Furthermore, cognitive intelligence is based on neurological mental abilities, including attention, memory, sensing and perception.

Mental abilities are hard linked to biological intelligence, precisely the functionality of the brain and the neural system. This innate capacity has inherent limitations, although, despite limitations, mental skills can be consciously developed. Due to its high degree of plasticity, the neural networks that underpin mental abilities can be enhanced through targeted training. At the atomic level, this can be conceptualised as the neutron traits, which are essentially dormant and possess a significant reserve of potential energy.

### *Collective Intelligence*

Collective intelligence is a composite of individual dynamics and qualities amalgamated into a unified entity. Although this thesis does not primarily focus on collective dynamics, understanding the principles of collective intelligence is a fundamental component of the research.

Collective intelligence, also referred to as group intelligence, is the ability of a group to find solutions to problems more efficiently than the best individual solution in that group (Garnier, 2024). In this respect, collective intelligence is superior to the intelligence of any individual in the group (Rosenberg, et al., 2017).

Collective intelligence emerged in sociology in the mid-1980s, specifically in the study of collective decision-making. Based on features such as communication, cooperative behaviour, and self-organisation, collective intelligence has also been attributed to bacteria and animals (Nguyen, 2011).

Howard Blum, a research fellow at New York University's Graduate School of Psychology, is an expert in the field of mass behaviour, defined as collective behaviour ranging from quarks to bacterial, plant, animal and human communities. He has drawn attention to the biological adaptation that has led to most creatures on Earth becoming

components of what he has termed a 'self-learning machine' (Blum, 2001). This biological adaptation is called 'group IQ.' Through Blum's research it became evident that the collective intelligence of bacterial groups or human societies can be explained in terms of 'complex adaptive systems' and 'genetic algorithms' (Holland, 2014).

The process of self-organisation is directly related to the movement of energy in the system. In particular, free energy (Bonabeau, Dorigo, Theraulaz, 1999) is necessary for self-organisation. Self-organisation is also realised in the physics of non-equilibrium processes and chemical reactions, often characterised as self-assembly (Glansdorff, Prigogine, 1971). This concept is well established in biology, from the molecular to the ecosystem level (Camazine, 2003). Examples of self-organising behaviour can be found in the literature of many other physical sciences and social disciplines (such as economics or anthropology). Self-organisation has also been observed in mathematical systems such as cellular automata (Ilachinski, 2001). Self-organisation is an example of a concept related to the origin of life on Earth (Feltz, et al. 2006).

The phenomenon of self-organisation explains the nature of swarm intelligence - the collective behaviour of a decentralised, self-organising system. The concept of swarm intelligence has been actively adopted by modern sciences related to artificial intelligence, which, in turn, helped to study this phenomenon in human societies in much greater depth and detail. For example, Yu Luo and Ningsheng Caispecify described the basic principles of how swarm intelligence works: in a single energy network, each member can make its own decisions, respond to environmental changes, and consult other members (Yu, Ningsheng, 2021).

All groups and communities, regardless of size, are predicated on shared principles of interaction, with each interaction creating a distinct energy field. Collective intelligence represents the energy level most remote from the core of the personality and the farthest boundary level of the personal field. In the atom, this level provides the most active energy exchange dynamics (the most active electron orbital). For a person, it secures the active exchange of energy resources, predominantly in magnetic induction.

## 2.9. Models of Energy Processes In Personality Dynamics

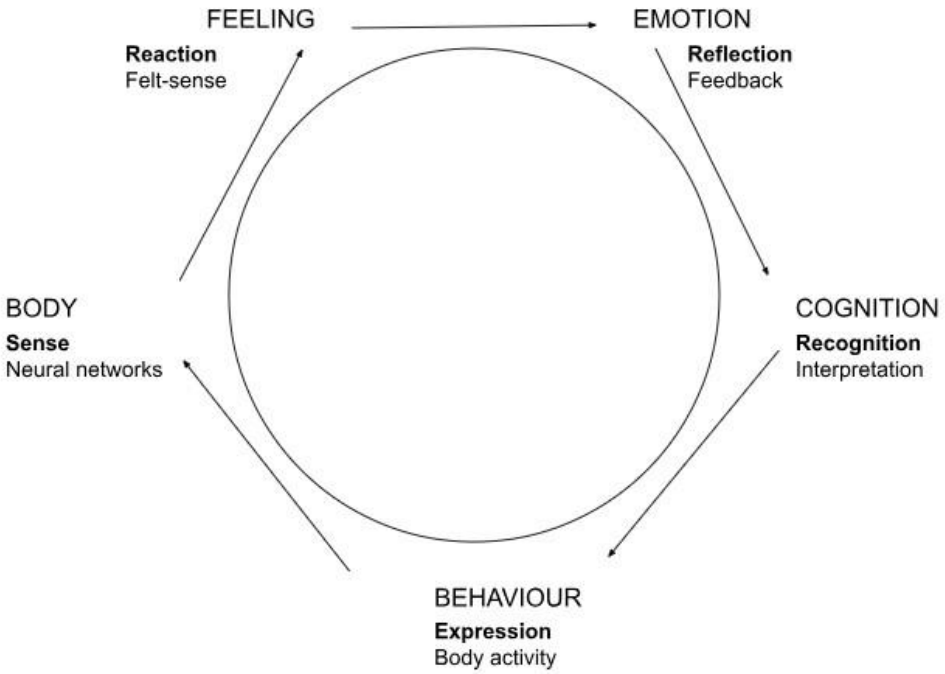
To conclude the chapter on the functioning of personality dynamics, physical energy can be experienced by an individual within the spectrum of awareness and realisation. This process begins with an essential aliveness in the body that manifests as a felt sense through the sensory channels: tactile, visual, auditory, etc. These sensations then become feelings recognised and labelled as specific emotions. Depending on cognitive capacity, these emotions can be either reactive or regulated.

Personal dynamics can be better understood through the lens of atomic and electromagnetic processes, as well as natural phenomena. These dynamics are not exclusive to personal experience; they can be observed in other matters, including air and water, with minor adaptations contingent on the density of the matter in consideration and the prevailing environmental conditions.

To illustrate, a river current is defined as the movement of water in a river. Rivers are characterised by a flow from high points to lower ones, ultimately discharging into a larger body of water. The force of gravity, which exerts a downward pull on the water, is the primary driver of river currents. The movement of water in a river is affected by a number of factors, including the volume or amount of water flowing in the river, the river's gradient, also known as its stream gradient, and the topography of the riverbed, which encompasses features such as rocks, dams, sandbars and basins, which could influence the current (National Geographic, 2024). This process is analogous to the flow of energy through a conductor, for example, a human body or mind, where similar forces lead to particular load circumstances.

This Thesis presents the schematic models that visualise the circle (a loop or a spiral) of energy movement in psycho-emo-somatic processes.

***Picture 1.*** *Model of five points of personality dynamics: process elements with agendas.*




From a biological perspective, the body's sensors and neural networks enable it to perceive energy potentials as sensations. The potential difference gives rise to a reaction in the form of a felt sense, which may be conceived of as analogous to the creation of waves on a pond by the throwing of a stone. The ripples of feeling that flow through the body make aware the inner systems about the change and reflect off on the existing internal processes, getting feedback on the sensation of how it feels. This reflected charge is recognised as emotion and interpreted into cognition. When cognition is formed, the expression of the body manifests through specific behaviour and activity. Energy movement in the body eventually becomes body movement.

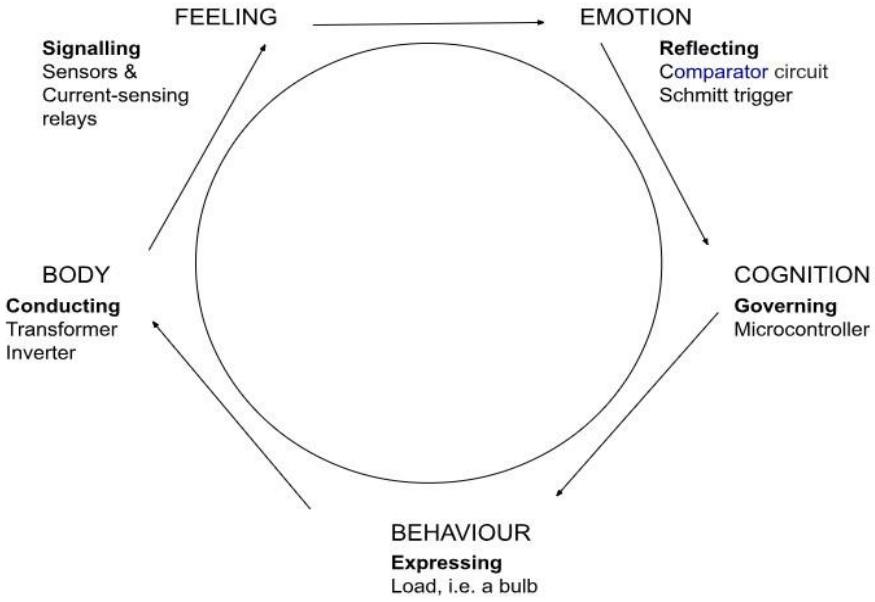
The body, with its various densities of matter, is the conductive material that allows current to flow through all systems. The defining characteristic of an alternating current (AC) is its polarity reversal and continuous variation in magnitude. This implies that the trajectory of a signal through the body is not linear, as in the schematic model below; it

rather exhibits a cyclical pattern, repeatedly returning to the initial point of reference, confirming the prevailing state, and then proceeding in a forward direction, only to return once more. Additionally, the magnitude and voltage undergo a constant, dynamic alteration.

In the context of electromagnetic terminology, energy potentials are referred to as voltage. The primary quality of this phenomenon is to exert pressure on the charge in effect to perform work, namely to transfer energy to matter by applying a force. Electric charge is the physical property of matter that enables it to experience a force, which can be considered analogous to the experience of life in psychological terms.

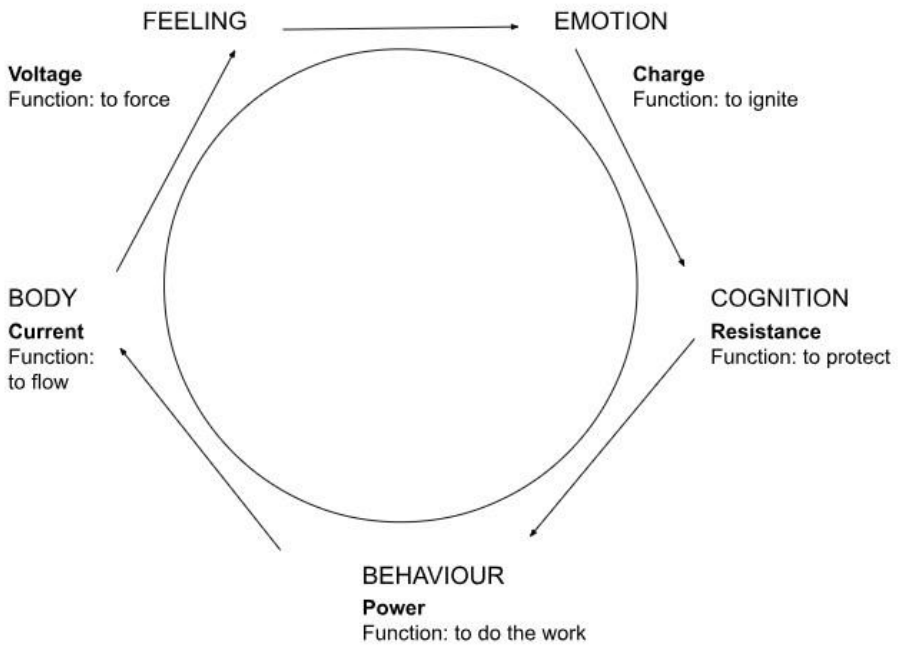
It is essential to provide protection and balance to ensure safety when a charge ignites energy flow in a system. This function is served by resistance. From a psychological perspective, this functionality is offered by cognition, which enables the control and regulation of stress, thus allowing energy to flow safely to the load to perform the necessary work. This is the most energy-efficient method of work.

***Picture 2.*** *Model of personality dynamics as electromagnetic processes (functions).*



The next level of complexity in understanding personality dynamics as energy processes can be seen in terms of circuit design functionality.

***Picture 3.*** *Model of personality dynamics as circuit design elements with their functions.*




*Body*

Presented models once more consider the body to be the core of all personality processes and the conduit for the flow of current. As previously discussed, the body exhibits the characteristics of a transformer and an inverter when viewed through the lens of circuit design.

The function of an inverter is to convert direct current (DC) into alternating current (AC). The human body converts DC to AC by eating food, breathing air or experiencing some other external stimuli. The function of a transformer is to transfer electrical energy from one AC circuit to another or several other circuits, either by increasing (boosting) or decreasing (lowering) the voltage.

*Feelings*

When the body has experienced the energy of stimuli, the energy current is conducted through neural paths and the neural system sends the signals to relevant areas, informing about the impact, causing psyc-emo-somatic processes to experience feelings. In electronics, the analogous to this process would be a function of current-sensing relays - to signal the presence of high currents, identify low currents, and sense the current in order to feed it to a programmable logic controller (PLC).

*Emotions*

The presence of feelings in the body can be conceptualised as analogous to the concept of potential difference, or voltage. In the field of electronics, a Schmitt trigger is defined as a comparator circuit that incorporates hysteresis through the application of positive feedback to the non-inverting input of a comparator or differential amplifier. Schmitt trigger is a circuit element that performs the function of converting an analogue input signal to a digital output signal. The designation 'trigger' is derived from the fact that the output retains its value until such time as the input undergoes a sufficient change to trigger a change in the output. The Schmitt trigger regulates the dual threshold action between input and output, which is referred to as hysteresis. This suggests that the Schmitt trigger has memory and can function as a bistable multivibrator (latch or flip-flop).

Analogies may be drawn between the hysteresis behaviour observed in artificial devices and the hysterical dynamics observed in humans. In natural systems, hysteresis is frequently associated with irreversible thermodynamic processes, such as phase transitions, and with internal friction. Furthermore, dissipation is a common consequence. The term "hysteresis" is derived from the Ancient Greek word ὑστέρησις, which means "deficiency" or "lagging" control. One type of hysteresis is a lag between input and output.

The term 'hysteresis' can be directly compared to the term 'hysteria', which is used to describe a stress response characterised by an ungovernable excess of emotion. This is in line with the definition provided by a group of physicians in 'Evolution of bodily distress

disorders' (Chethan, 2020). Hysterical behaviour may manifest in a number of ways, including feelings of being overwhelmed, collapse, losing ground, dissociative episodes and a lack of cognitive control.

*Cognitions*

In personality dynamics, cognitions serve to control and govern the emotions, which are brought up by deeper feelings. The purpose is to protect the system against high stress, or regulate a low energy level. This is analogous to a microcontroller**,** which is a compact circuit designed to regulate specific operations. A typical microcontroller comprises a processor, memory and input/output peripherals on a single chip.

The majority of contemporary microcontrollers are equipped with integrated analog-to-digital converter (ADC) circuits, which are employed for the conversion of an analog signal, such as voltage, into a digital format, thereby facilitating its reading and processing by a microcontroller. DAC (digital-to-analog) are commonly used to convert digital data streams into analogue audio and video signals.

Duality of matter is a fundamental property, based on the difference of two potentials and is represented in personality dynamics in a form of a thought.

The model on the Picture 3 demonstrates the manner in which the cognitive process is related to the ADC (analog-to-digital converter) and DAC (digital-to-analog converter) of the microcontroller. The cognitive process is most commonly experienced as a thought. A thought can be conceptualised as a wave and, conversely, as a particle, depending on the perspective from which it is observed. This kind of complementarity allows us to gain theoretical insight into the nature of human thought and behaviour (Inengite, 2022) and understand the thought as a duality process.

Thought is a wave in continuous streams, when it is unwritten, and it's a particle when it is presented in discrete packets of quantized information: for example, in Morse code or in written words. Same as any other waves and particles of energy through radiation can interact with other objects and affect other people in a positive or negative way. The outcome of such interaction depends on the dose of the radiation. It can be healing or harmful.

*Behaviour*

An electrical load is any electrical device or component that consumes electrical energy and subsequently transforms that energy into another form, for example, an movement. The device (load) uses electricity to move a magnetic coil. There will be no light in the bulb if it is not plugged into an electric socket.

As part of any electrical circuit, the component transforms current into a form that can be utilised, most commonly motion, light, or heat. This contrasts with a power supply source, such as a battery or generator, which provides power. In this context, the human body represents an energy source (like a generator) and the behaviour is a power-consuming process. It consumes power with the purpose of making a move or expressing an emotion.

Behaviour is a result of magnetic field, generated by electric current in the body. Behaviour can be active (expressed) or passive (stopped and suppressed). It can also be contained (temporarily stored), in the same way as in an EM field. IN EM field a capacitor stores energy in the form of an electric field, thereby opposing any change in voltage; and an inductor stores energy in the form of a magnetic field and opposes any change in the current. In case it is not expressed and contained, the saved energy can be used for a next movement.

In physics, different types of load introduce different requirements that your system must be ready to provide. Inductive loads use reactive power. Inductor stores energy in the form of a magnetic field and opposes any change in the current. Examples of inductive loads include motors and transformers. This means that the device's power factor is to lag. An inductive device will stop running not immediately, but soon after it stops receiving energy, which is known as inductive current. In personality dynamics this type of load can be seen in behaviour for anxiety relief and a way to reduce worry and overwhelm, to have a Scarlett O'Hara Moment: think about it tomorrow. The inductor type of containing behaviour is slowing down the workflow/activity, resting, grounding the work by closing gestalt at each step before going to the next step, planning, scheduling. Inductive load is a great way of generating ideas after an important event, for example, "sleep on it" - to think more about something overnight and make a decision about it

later. Negative aspect is the inertia of our mind: the “L'esprit de l'escalier” or 'staircase wit' - the predicament of thinking of the perfect reply too late.

Capacitive load is another form. Capacitors store energy in the form of an electric field, thereby opposing any change in voltage. Capacitive devices use both active and reactive power, and make the current 'lead' the voltage. This device’ power factor is to lead. Capacitor banks, cables and batteries are just a few of the most common examples of capacitive load. In personality dynamics, the capacitor type of containing behaviour is decreasing the pressure and stress: adapting work requirements to your capacity, simplifying tasks, delegating to others, dividing work into smaller parts, single-tasking, focusing, and attention.

Resistive load is also a form. Resistance creates heat in the system. A resistive load consumes active power and converts electrical energy into thermal energy, such as heat and light. The power factor of this load is to unite, meaning its voltage and current are in phase with each other. Lamps and heaters are examples of resistive loads. Resistive devices stop working immediately, when current stops. In the context of personality dynamics, this entails observing and maintaining appropriate boundaries. This involves regulating the workflow, halting the process when it is approaching its limits, and preventing it from becoming overloaded, overwhelming, or overheating. The establishment of transparent regulations, obligations, and expectations. It is essential to maintain equilibrium between work and rest, between charge and discharge, and to ensure that all aspects of one's life are in a state of healthy balance.

In the field of physics, an ideal resistor is defined as having zero reactance, which indicates that it is capable of completely stopping the flow of current. This implies that there is no possibility of reactance occurring and, therefore, no reactivity. In an ideal alternating current (AC) circuit, in the absence of interaction and change, the voltage and current are in phase, and there is no reactive power flow. It should be noted, however, that there are instances when the voltage and current are not in phase, and the reactive power flow can be inductive or capacitive.

The introduction of inductance into a circuit results in a phase shift between the voltage and current, whereby the two do not cross zero simultaneously. This phenomenon is

known as "out-of-phase" behaviour. When a circuit contains an inductive component, the current (iL) lags behind the voltage by one-quarter of a cycle due to the reactance.

An illustration of "out-of-phase" conduct in personality dynamics could be observed in instances where an individual's emotional state and subsequent actions are incongruent. To illustrate, an individual may experience elevated emotional arousal (high emotional voltage) while attempting to display composure and calm (low behavioural current). In this instance, the emotional state (voltage) and the outward behaviour (current) are "out of phase," analogous to the manner in which voltage and current can be out of phase in an alternating current (AC) circuit. This discrepancy gives rise to internal tension, which is analogous to the inefficiency that arises from an electrical system comprising out-of-phase voltage and current.

As with resistance, higher reactance results in lower current for the same applied voltage. The reactive power formula:

$Q = V \times I \times \sin(\varphi)$

where Q is the reactive power, V is the voltage, I is the current, and φ is the phase angle between the voltage and the current.

Reactive power is energy that is reflected back to the grid. This energy cannot be used by the load, but it raises the voltage. This process is opposed to active power, which is the actual, usable power that is consumed by the load.

Models can be employed for the analysis of the individual state of being and for the comprehension of the interaction between individuals as a part of the field process.

### *3. Force Field: The Interaction*

Given that the field is an objective and fundamental property of matter, it is logical to conclude that personal dynamics have a force field of their own, analogous to any other matter. In the context of high school physics, NGSS level, a field represents the distance force experience of an object at a particular point in space. An electric field is defined by the magnitude of the electric force. A magnetic field is defined by the magnetic influence on an object in space (KhanAcademy, 2024).

In a nutshell, an electric field is the radiation of a charge, and a magnetic field is the radiation of a moving charge – either a particle or a wave. Charge can move between objects during the interaction, due to the forces at a distance, like electric and magnetic fields. This notion suggests that a charge can move between individuals, and it can be induced. Inductive reasoning, role induction, inductive disorders are well-known phenomena in psychology and psychiatry.

In classical field theory, each type of interaction is associated with a specific field. Similarly, personality dynamics can be understood in a non-distinct manner. Some forces exert a greater influence than others on an individual and their social environment.

Some forms of the personal field can be detected through the individual's sensory channels in a form of image, sound, smell, temperature and information shared through verbal and non-verbal channels by the person. However, more subtle charges, like emotions and thoughts and their force fields are more difficult to detect through the human senses, although this should not negate the existence of those energy processes.

### 3.1. Photons: The Light That Interacts

All electromagnetic interactions are associated with a distinct force field, which is carried by photons. In the previous chapter it was stated that the field and its substance - photons, can be visible and detectable under certain conditions. The visible spectrum is constituted by photons, and can be defined as a product of light. The retina is a highly sophisticated human organ that contains sensors capable of responding to a single photon. Neural filters permit the transmission of a signal to the brain, which in turn triggers a conscious response within a narrow window of opportunity (Schnapf, 1987). This provides a secure window frame for the human body and psyche. Any deviations from the norm have the potential to result in psychological or even mental disorder. The majority of electromagnetic radiation emitted by humans is infrared radiation, it has a frequency below than visible light (Baird, 2013), not many people can detect this frequency.

Some individuals possess more acute sensory capabilities, enabling them to perceive phenomena that exceed the confines of the window frame. Such individuals may claim to perceive not only the physical form of objects but also an additional, ethereal quality, often described as an aura.

Dr. Domuschiev (2024) describes aura as the biofield surrounding the physical body, creating a radiance or so-called aura of electromagnetic energy (2024). Dr. Ivan Domuschiev (2024) also published recent research, demonstrating the feasibility of measuring the biofield using techniques such as magnetic resonance imaging (MRI), electroencephalography (EEG), and heart rate variability (HRV).

### 3.2. Biofield: The Psycho-Emo-Somatic Interactions

The measurement of the biofield is not a novel concept in medicine. As any physical object, the human body experiences temperature, resonance, electrical impulses, current of fluids and other energy processes that can be readily quantified. The body's bio-electromagnetic fields are characterised by a low amplitude and power, they can be quantified through the use of devices such as magneto-encephalography and magneto-cardiography (Johnson, 2023).

In 1963 Gerhard Baule and Richard McFee demonstrated a biomagnetic signal in a magnetocardiogram (MCG) that used magnetic induction coils to detect fields generated by the human heart (Baule, McFee, 1963).

The 30-year long research conducted by the HearthMath Institute has demonstrated that the strongest rhythmic field produced by the human body encompasses every cell and extends into the surrounding space. The magnetic field generated by the heart can be quantified at a distance of several feet from the body using sophisticated magnetometers, and it is believed to contain encoded information (HeartMath Institute, 2024).

As a conclusion of their long-term research it is suggested that the same rhythmic patterns may also transmit emotional information to the environment via the electromagnetic field, which may be detected by others and processed in the same way as internally generated signals.

This correlates with the findings of K.Pribram and F.Melges clinical neurology research on psychophysiological basis of emotion, that the low-frequency oscillations generated by the heart and body in the form of neural, hormonal and electrical patterns are carriers of emotional information, and the high-frequency oscillations found in the brain's EEG reflect the conscious perception and labelling of feelings and emotions (Pribram, 1969).

A long-term study conducted by researchers from the HeartMath Institute (HMI) has revealed that an individual's emotional state is encoded within the body. This is exemplified by the heart's magnetic field, which subsequently transmits and manifests this information throughout the body and into the external environment.

The majority of individuals perceive communication as overt signals expressed through a range of non-verbal behaviours, including facial movements, vocal qualities, gestures and body movements. Nevertheless, there is evidence to suggest that a subtle yet influential electromagnetic or "energetic" communication system operates below our conscious level.

The group of scientists at HMI has conducted research and collected essential data suggesting that this energetic system of human beings contributes to the "magnetic" attraction or repulsion between individuals (HeartMath Institute, 2024).

The magnetic component of the field generated by the heartbeat has been observed to naturally radiate beyond the boundaries of the body (Stroink, 1989). Using SQUID-based magnetometers, this phenomenon can be detected at distances of several feet.

In medicine, the term "field cancerisation," also referred to as the "field effect," represents a biological process whereby extensive regions of cells undergo carcinogenic modifications. This phenomenon typically occurs after prolonged exposure to external factors that harm the body.

This suggests the inductive nature of electromagnetic influence: the influence of physical matter as well as the influence of subtle matter, such as individuals' interactions with one another.

Medical doctor and author Gabor Maté has discovered the psycho-neuro-immuno-endocrinology connection, which demonstrated in his book "When the Body Says No",

confirming that emotional repression due to traumatic experiences and interactions contributes to cancer, autoimmune diseases and neurodegeneration (Mate, 2019).

Understanding the field as an electromagnetic process, it becomes clear that a 'field effect' can be produced not only by direct contact with the damaging factors but also by a high degree of personal permeability to exposure to a traumatising environment, which comes into conflict with an internal process. In other words, the cause can be psychological as well as biological.

### 3.3. EM Force Field Processes In Personality Dynamics

The human body and human groups display the same distant force field phenomena as other physical bodies when entering into resonance. This phenomenon occurs when two or more bodies come into proximity, adapt to each other's oscillation frequency (vibration), and create an increase in the energy flow (excitation waves). This leads to the formation of an interaction, or force field.

The electromagnetic field in electrical circuits oscillates in a manner analogous to respiration, cardiac contraction, thermoregulation, and the transmission of information in different formats that occur within the personality dynamics in the form of cognition, emotion, language, and movement. Vibration plays a pivotal role in the physiological processes occurring within the body and in social interactions between individuals and social groups due to the phenomenon of resonance.

To be more precise, the electric wave provides the primary direction, magnitude and fundamental value of the generated electromagnetic field, while the magnetic wave is responsible for propagating the field, including spin and spiral formation. The phenomenon of spiralling is characterised by a continuous and dramatic increase in the propagation of the wave. The term is frequently employed to delineate the psychological condition of the wave in instances of mental deterioration.

In essence, the electrical part of the field can be seen as a core energy, the charge itself, the magnitude of electric force and it is stored in the conductor and normally applied via a direct contact. This is the part which does the job and provides the load, via voltage applied by the current to the charge. The magnetic part is a cloud of energy, the

field of influence (attraction/repulsion). In other words, the energy a person radiates from within attracts the situations and people that resonate with it (Pert, 2000).

In the context of personality dynamics, the electric field can be conceptualised as an inward process, sense of self, personal values, while the magnetic field can be understood as an outward process, analogous to the electrons orbiting the nucleus, creating a spin and propagation: image and reputation.

This concept can be observed in modern linguistics, for example, where many outward processes are described using the prefix "ex" (Latin and Greek, meaning “out, from”) to describe the direction and location of the movement. These include external, exceed, exhale, export, extend, exchange, expression, extraction, extrapolation, expansion, exterior, exit, and so forth (Charlton T. Lewis and Charles Short, 1879).

To illustrate, with respect to this particular matter, the electric process in personality dynamics can be regarded as either an insight in the form of an idea. The propagation of the magnetic field towards this idea can be conceptualised as its expression in a form of spreading it and expanding further, in the “word of month way”: via speech, writing, posting on social media, or any other behaviour that serves to disseminate the idea to the external world.

The electric field is produced by an energy-per-charge, otherwise known as voltage, whereas the magnetic field is generated by a current. The charge and its associated electric field represent the essential "what" of the process, encompassing its inherent meaning, value, fulfilment and content.

In contrast, the magnetic field represents the context or the 'how' of the flow. This illustrates how the idea's magnetic field can reach others in a non-conductive but inductive manner. Furthermore, it demonstrates the extent to which communication can flow and reach out without a direct impact (for example, direct marketing), the number of people who will be attracted by the idea, and the number of followers and supporters it can have. The idea has the potential to garner attention due to its magnetic appeal, and it may be able to attract sponsors and patrons, to extend it further by spiralling.

The electric and magnetic qualities of the field can be considered two aspects of a unified phenomenon—"two sides of the coin," analogous to the aforementioned

concepts of consciousness and intelligence. Consciousness can be conceptualised as an individual's fundamental capacity, representing the "what" in this process, whereas intelligence can be understood as the manner in which this capacity is manifested or the "how." This process aligns with the one previously described.

### *Traumatic Memories as Electromagnetic Forces*

It is of great importance to comprehend the underlying force field and the specific level at which the healing process occurs, as this understanding is fundamental to the practice of psychotherapy. The majority of traumatic experiences are described by patients in terms of emotional states and memories, or observed by therapists in the bodily state of the patient.

In essence, implicit memories and trauma functions may be conceptualised as analogous to electrical forces. These are deep-seated processes that often operate without conscious awareness, manifesting themselves only in somatic form. In contrast, explicit reactions may be likened to magnetic forces, which are observable, deliberate, and structured, allowing for conscious reflection and analysis. Both types of memory and response play crucial roles in shaping our experiences and behaviours, but they operate through fundamentally different mechanisms.

By nature, the implicit memories, frequently associated with traumatic experiences, can be conceptualised as underlying electrical forces. Such memories represent the initial charge, which is then pushed by a specific voltage, whether inner stress or external triggers. This process influences behaviour and emotions without conscious awareness, analogous to electricity flowing unseen through conductive wires, powering devices without being directly observed.

Explicit memories are like magnetic forces, which are more observable and deliberate. They require conscious thought and awareness, much as magnets visibly attract or repel objects when they are close together.

The effect of implicit memories can be compared to an electric power, producing strong reactions such as a shock or a spark. Similarly, implicit memories of deeply held traumatic experiences can evoke strong emotional responses, and the individual may

not be fully aware of the source and meaning of these feelings. To illustrate, a forceful application of some invasive and direct techniques could have such an effect if not handled with care. Patients may not be able to cope with the implicit memories that are revealed.

In contrast, magnetic reactions are predictable and can be influenced by the strength of the magnetic field. Similarly, explicit reactions to memories can be measured and articulated, allowing individuals to analyse their experiences and reactions in a more structured way, providing more safety to the patient.

In terms of storage and retrieval, just as electrical energy can be stored in a capacitor and released when needed, implicit memories are stored in the body and can be triggered by specific cues, often leading to involuntary responses such as anxiety or fear in the presence of reminders of trauma.

The magnetic field is stored in an inductor. Depending on the strength and characteristics of the current, an inductor can hold a magnetic field for some time. Similarly, explicit traumatic memories can remain vivid and potent for long periods, especially if they're frequently revisited or processed.

The process of recalling explicit memories is similar to the principle of electromagnetic induction, where a change in the current can induce a magnetic field. Similarly, a change in context or emotion can trigger the recall of explicit traumatic memories and their release.

In the example above, with the implicit memory retrieved in the form of shock, the aim of the psychotherapist might be to bring up or create as many explicit memories as possible related to the trauma discovered in order to release the traumatic experience that has surfaced. This can be done in a way that externalises and spirals the feelings and memories, involving the somatic bridge, making the experience more conscious and manageable for the patient. From a psychotherapeutic point of view, working with explicit memories in the magnetic field can be considered safer, in order to appreciate their structured nature, the way they can be triggered by specific stimuli and the impact they have on our emotional and cognitive processes.

### *Magnetic Interaction*

The primary focus of this Thesis is the electromagnetic interaction between people, with a particular emphasis on the magnetic field. This is due to the fact that in psychotherapy it is important to rely on more prominent, conscious, measured and articulated communication. A more detailed examination is essential. A group of individuals can create a collective magnetic field that fosters a sense of belonging and community. This shared energy can encourage collaboration, creativity and mutual support. Such interaction between people is created by the magnetic field and specifically by the ability to induce.

### *Permeability: Personal Susceptibility to Induction*

In physics, permeability is the measure of magnetisation produced in an object in response to an applied magnetic field. Materials with higher permeability can concentrate magnetic fields. Similarly, individuals who possess more “porous” personal boundaries and are more suggestible to social influence are more susceptible to induction, which makes them more receptive to the opinions, behaviours, and patterns of others.

The concept of permeability plays a role in facilitating greater accessibility for individuals, which may increase their vulnerability. This vulnerability has the potential to result in an increased risk of becoming unsafe, unprotected, and particularly hazardous for children and individuals with mental disorders or those in weaker social and health statuses.

It is crucial to achieve a balance between openness and inner stability in order to maintain a healthy lifestyle. In the case of a magnetic field of considerable strength and high permeability, the necessary stability can be achieved by utilising a higher voltage and current. From a psychological perspective, it is essential to cultivate a robust sense of self and personal values in order to effectively manage stress and remain attuned to the patients' profound emotions. The aim is to train the inner qualities of psychological strength and stability even in the presence of a strong magnetic resonance.

Psychological professionals and psychotherapists must cultivate an open and receptive attitude, known as inductive resonance, and maintain a secondary-coil position or a

systemically minor (receptive) role within the therapeutic dyad. This enables them to comprehend their patients' emotional states, thoughts, and feelings accurately.

The phenomenon of transference, which occurs within the context of a therapeutic dyad, provides an opportunity for patients to experience the therapeutic benefits of permeability. This phenomenon is based on the observation that individuals frequently transfer feelings about their parents to their psychotherapists, friends, partners, or children (i.e., transgenerational entanglement). By employing techniques such as attention and focus, a psychotherapist can identify and acknowledge this entanglement, which can serve as a healing process for the patient. It is self-evident that psychologists who work with patients must maintain a robust sense of self-awareness in order to practise effective self-care. There is a substantial body of research that indicates some individuals are less susceptible to the influence of other people's opinions than others. In the study on internal political self-efficacy (IPSE), J. Lee identified two key factors: internal self-efficacy and the need for cognition. Those with lower levels of these two factors are more susceptible to external influences (Lee, 2014).

### *Spin and Spiralling*

It is a fundamental property of magnetic fields that they exhibit spiral behaviour. This behaviour is initiated by moving electrical charges, and therefore it may be beneficial to ground the charge in order to slow down or even stop the spiralling. The most effective mental grounding is achieved with the help of the body. For example, if a person focuses on the exhalation process in a specific way, as demonstrated in the Wim Hof method, or on chanting slowly in a low register of the voice, or on listening to LoFi music, - these techniques alter the frequency of the electric current, which modifies the spin of the magnetic field and removes the person from the spiralling and hysteresis process.

### *Reluctance and Shielding*

The reciprocal of permeability is defined as magnetic reluctance. In a magnetic circuit, magnetic reluctance is analogous to electrical resistance in an electrical circuit. In both cases, the resistance is a measure of the opposition to the magnetic current. However,

unlike electrical resistance, magnetic reluctance does not create an excessive amount of heat. For individuals, the loss of enthusiasm when striving to achieve a goal may manifest in various ways. Magnetic reluctance represents the lack of engagement and contribution among group members. Magnetic reluctance can manifest as a collective hesitancy to embark upon a project, due to a lack of intrinsic motivation and a perceived lack of value in the project. In such cases, there is a lack of enthusiasm and interest and a corresponding absence of involvement. There is no flow of current, and no emotional conflict attached. In this state, individuals are not overwhelmed.

In order to facilitate engagement with the project, the utilisation of a magnetic induction may prove beneficial. This could be achieved, for instance, through the demonstration of interest in the project. Opposing the magnetic reluctance, the concept of electrical resistance can be exemplified by a group of people who initially demonstrate interest and involvement in a valuable project, but are subsequently impeded by external factors. For example, the presence of dominant personalities can restrict open dialogue, which can lead to electrical resistance in the group. This can result in the group feeling overwhelmed and frustrated. The inability to create value due to the hindrance caused by the blockage can lead to a build-up of stress within the group and increase the level of conflict - the heat in the system.

The aforementioned examples serve to corroborate the physical capabilities of electric and magnetic fields to be shielded. It is not possible to shield a magnetic field; it can only be deflected. In the context of personality dynamics, it can be observed that the focus of attention (the current flow) of an individual can be redirected towards alternative interests without a corresponding loss of energy and motivation. The process is analogous to the one observed in physics: a changing magnetic field gives rise to a new current (which is the process of induction) and an electric field. The individual's interest and attention can be redirected without compromising the desire to become involved.

Electrical resistance is different. Because electric fields can be shielded, a blockage of energy flow may occur in personality dynamics, manifested through the loss of desire, interest, and motivation. This is often accompanied by the feeling of losing core values, frustration, sadness, and collapse. In order to protect against the magnetic field, it is

possible to redirect the current to another object with a higher permeability. This effectively provides the field lines with an alternative route to travel along. The magnetic lines then follow this path and are prevented from entering the region that is being shielded.

### *Polarity and Resonance*

The polarity of magnets can be observed in the dynamics of personality as forces that act to either push or pull. The action of pushing can be perceived as a form of giving, as exemplified by the spoken phrase "give me a push." Conversely, the action of pulling can be perceived as a form of taking or absorbing, as evidenced by the spoken phrase "pull me in." In circumstances where one individual engages in speech while another listens, a process of mutual attraction is observed, whereby both parties serve to enhance the other. However, when both individuals are engaged in speaking alone, there is no compliance, and both parties are, to some extent, repelled from one another. This can be compared to two pieces of jigsaw tiling puzzles with identical patterns, which are unable to be connected due to their incompatibility. The two elements are not aligned and unable to form a connection, so they repel.

Similarly, two completely identical ideas are likely to be perceived as unappealing. Conversely, markedly different and unconventional ideas will repel each other, as they are too polarised and challenging to comprehend, so they cannot "enter" each other. In order to foster a sense of attraction, it is essential to introduce a prominent but subtle variation in the idea, thereby capturing attention and generating interest. This phenomenon can be explained by the concept of magnetic resonance in personality dynamics.

To illustrate, in a group therapy session, one person may open up about their struggles, and others may resonate with what is being shared. The personal attraction to the story and the emotional response to the story shows the magnetic resonance between people, where specific frequencies align and amplify each other. For magnetic resonance to occur, several key elements must be present. First, openness and authenticity are essential. Just as in magnetic resonance, where specific conditions must

be met for resonance to occur, these two qualities are vital in a psychological setting. When someone expresses genuine emotions, they can resonate with others who have similar feelings, creating a deeper bond—a stronger field.

A second condition for the magnetic resonance to manifest among people is the phenomenon of shared frequencies. In this context, shared experiences and emotions can be conceptualised as waves with specific frequencies. When individuals identify common ground, such as in the case of grief, joy, or anxiety, they align emotionally, which can enhance feelings of empathy and support within the group.

A third condition for the emergence of magnetic resonance among people is the amplification of understanding. Just as magnetic resonance can amplify signals, emotional resonance amplifies understanding and compassion. This shared resonance can facilitate greater insights, healing, and connection among group members. From a psychological perspective, magnetic resonance demonstrates how individuals can form profound connections through the sharing of emotions and experiences. The alignment of these frequencies fosters a supportive environment, promoting healing and a sense of community, analogous to the way in which magnetic resonance amplifies signals in a physical system.

### *Induction*

The ability to resonate implements magnetic induction. Resonant inductive coupling (magnetic phase synchronous coupling) occurs when the strength of the coupling increases when the secondary (load-bearing) side of the loosely coupled coil resonates (IEICE, 2015). Resonant inductive coupling can be illustrated through the concept of emotional resonance in relationships. Just as resonant inductive coupling allows two coils to transfer energy efficiently when they are tuned to the same frequency, people often connect deeply when they share similar emotional states or experiences.

The use of induction can facilitate the development of empathy (Krevans, 1996) in children, encourage the adoption of appropriate behaviours, foster a sense of personal responsibility, and enhance understanding of the impact of one's actions on oneself (self-centred induction) and others (other-oriented induction) (Heath, 2013). The

detrimental impact of electromagnetic fields on human health has been evidenced by the emergence of induced psychotic disorders. These disorders manifest in individuals who are exposed to the inductor (a person) suffering from schizophrenia (Mentjox et al, 1993).

The most illustrative example of magnetic inductive coupling is that of the parent-child relationship, wherein the parent represents the primary coil and the child is the secondary coil. The primary coil is said to be the energising winding, while the secondary coil is the induced winding. In order to create an additional current of energy for the child, the parental coil must utilise the principles of magnetic induction.

Transformers facilitate the transfer of electrical energy between two or more circuits through inductive coupling. Transformers serve two main purposes: firstly, to change the voltage level, and secondly, to isolate two circuits. These processes can be observed in the context of personal relations, specifically in the development of an individual. From the outset of life, the parent (primarily the mother) assumes the role of transferring and balancing energy between themselves and the child, providing support and guidance throughout the child's life, and subsequently facilitating the transition from inductive coupling to an independent personality.

It can be observed that the mother-child union represents two electrical circuits, which exchange energy in a specific manner. The mother circuit is the primary circuit, with its own alternating current (AC) supply, while the child circuit is the secondary circuit and the induced receiver, which is wholly dependent on the primary circuit during the initial stages of life.

The most notable distinction between primary and secondary transmission is the voltage level. The primary circuit operates at a considerably higher voltage, which enables it to supply energy to both circuits. Once the separation process is complete and the secondary circuit has acquired the capacity to function independently, the child becomes an adult, a self-sufficient entity with its own power source. A healthy adult with their own power source is characterised by the following attributes: a distinct identity, self-trust, self-sufficiency, financial literacy, and the capacity to establish a family unit and to nurture their offspring into adulthood. This process describes the developmental and

transformative trajectory from symbiotic relationships to a mature, autonomous adult relationship.

The phenomenon of resonant inductive coupling can be observed in the context of family systems, particularly in the context of the upbringing of children. This can be seen through the dynamics of communication and emotional attunement among family members. When parents are attuned to each other's emotional states and parenting styles, they create a harmonious environment that facilitates the development of a similar understanding and behavioural repertoire in their children. To illustrate, if both parents espouse the values of empathy and open communication, their children are more likely to adopt these values, thereby feeling secure and supported in expressing their own emotions.

The family system resonance can be observed in a number of different ways: the modelling of behaviour, the sharing of values and the provision of emotional support. Similarly, as resonant inductive coupling enables the efficient transfer of energy, emotional attunement permits family members to provide effective support to one another. When parents acknowledge and validate their children's emotions, it cultivates resilience and emotional intelligence in the children.

In essence, the concept of resonant inductive coupling can help illustrate how a family's emotional and communicative coherence shapes the development and well-being of children, creating a nurturing environment where they can thrive.

While "induction" and "self-induction" are primarily technical terms in physics, their psychological interpretations reflect processes of influence and self-regulation in human behaviour and emotions. Understanding these concepts can provide insights into social dynamics and individual mental health practices.

Induction in essence means to lead (from Latin inductiō, from indūcō - “I lead”), direct and regulate the object being induced. One is inducting and the other is being induced. There are different types of induction in personality dynamics.

The phenomenon of social induction refers to the influence of other individuals or their immediate surroundings on an individual's thoughts, feelings, or behaviours. Group

dynamics can result in the formation of shared beliefs or behaviours, in a manner analogous to the influence exerted by a magnetic field on nearby objects.

Emotional induction is a phenomenon whereby another person's emotional state influences an individual's emotional state. For example, observing another person expressing joy or sadness can elicit similar feelings in an observer, illustrating the contagious nature of emotional states.

Cognitive induction is the process by which individuals can be encouraged to engage in deeper levels of thought and reflection. This phenomenon can be described as the generation of related thoughts or memories as a result of exposure to specific ideas or stimuli. To illustrate, the act of discussing a particular topic may evoke memories or associations pertaining to that topic in another individual.

### *Self-Induction*

Self-induction is the phenomenon of the change in magnetic flux resulting from the flow of an alternating current (AC) in a solenoid. This generates a back electromotive force in the same solenoid in a direction opposite to that applied to it. Self-induction slows down the dynamics and acts as a mechanical inertia

The process of self-induction (or inertia) enables an individual to decelerate the dynamics of change, thereby affording a greater opportunity for adaptation, integration, recuperation, rest, and decision-making.

The possibility of self-induction in personality dynamics is contingent upon the structure and functionality of the human body, particularly with regard to the analogous properties of deoxyribonucleic acid (DNA) that may be likened to those of a solenoid or coil (Fioranelli et al., 2019). The motion of electrons within the structure gives rise to the generation of magnetic fields. Each component of the DNA molecule functions in a manner analogous to that of an electronic device.

To illustrate, molecules with a hexagonal or pentagonal structure are capable of storing waves and energy and can be considered to have the functionality of a capacitor. Some waves act as topoisomerases, unwinding DNA strands to permit the reading of genetic information. The coiled regions of DNA are capable of producing a solenoid. The

collective circuits generate a system that is analogous to a radio wave receiver or transmitter.

It has been demonstrated by various authors (Sepehri, 2017; Montagnier et al., 2009) that the DNA molecule is producing electromagnetic signals and communicating with other molecules. In this way, DNA can be considered to act as a receiver or transmitter of radio waves. When DNA is damaged, its energy changes and an additional current is produced.

Self-induction in personality dynamics is an effective method for improving mental health and can be achieved in various ways, to overcome formidable external pressure or to reset their own cognitive processes. Self-induction is the process by which an individual influences their own thoughts or emotions through self-reflection or self-talk. For example, positive affirmations will induce a more positive mindset.

Self-hypnosis is a specific form of self-induction whereby individuals utilise techniques to induce a trance state for the purposes of relaxation or therapeutic intervention. This demonstrates the capacity to exert influence over one's mental state.

This is complemented by a mood regulation technique whereby individuals can induce changes in their mood through various strategies, including engagement in specific activities, recollection of pleasant memories, or mindfulness practice. This illustrates how individuals can proactively shape their emotional experiences using the body ability to self-induce.

### *Contagion*

Induction is the way of how emotional states or behavioural imitation can be shared and transmitted from one person to another. Induction as a physical process explains the mechanisms of emotional contagion, in essence, the emotional mimicry and synchrony (Hatfield, 2012).

Elaine Hatfield from University of Hawaii, Manoa (1994) posits that emotions can be "caught" in a number of ways. Social contagion is the spread of behaviours, emotions, or conditions through a group or network (Singer, 2014). The phenomenon has been used metaphorically for centuries, linking the concept of infection with imitation (mimesis).

Gustave Le Bon coined the term "behavioural contagion" in his 1895 book The Crowd: A Study of the Public Mind. He put forth the proposition that "mysterious forces" act upon individuals when they gather in groups, or crowds. The objective of this Thesis is to elucidate that this phenomenon can be attributed to a magnetic force, namely magnetic resonant induction.

Due to ego constructs, genetic inheritance and early experiences, some people are more susceptible to emotional contagion and may have a higher suggestibility. In contrast, others are more reluctant and resistant due to a different psychological permeability.

The group of medical scientists investigating cardiac coherence concluded that, from an electrophysiological perspective, individuals in a coherent state appear more sensitive to the information in the magnetic fields generated by others. Furthermore, during physiological coherence, internal systems demonstrate enhanced stability, efficiency, and the emission of electromagnetic fields with a more coherent structure. (Tiller et al., 1996)

Emotional contagion refers to the phenomenon whereby an individual's emotional state is influenced by observing the emotional expressions of another person, leading to a resonance-based emotional response. This process plays a pivotal role in the early development of empathy. Although emotional contagion and empathy are similar in certain respects, they are not identical. In “The Art of Loving” (1956), social psychologist Erich Fromm examines these distinctions, proposing that autonomy is a prerequisite for empathy, which is absent in emotional contagion. This notable differentiation illuminates the distinction between a mature, well-balanced personality and an immature, ill-equipped personality.

In the context of clinical psychotherapy, the concept of contagious depression, which encompasses automatic mimicry and the mirror neuron system, is a well-established theory. This understanding is based on the phenomenon of emotional contagion, which posits that affective states can be transferred during social interaction. This is because humans can use emotional contagion to communicate feelings and emotions in both conscious and unconscious ways (Paz et al., 2022).

It is well documented that a considerable number of individuals adhere to beliefs that are both false and potentially distressing. These beliefs are based solely on unverified information and are classified as mass hysteria by the psychiatric community, which does not regard them as clinical delusions.

The most severe form of social contagion is known as Delusional Disorder, or Folie à deux in French, which translates to 'madness of two'. It is also referred to as Shared Psychosis or Shared Delusional Disorder (SDD). This psychiatric syndrome is characterised by the transmission of symptoms associated with a delusional belief from one individual to another (Berrios and Markova, 2015; Arnone, 2006).

This disorder exemplifies the power of induction and magnetic resonance to influence individuals in a profound manner. It is most frequently diagnosed in patients who reside in close proximity and may experience social or physical isolation, coupled with limited interaction with others.

Some scientists who have studied some psychiatric syndromes have set forth various sub-classifications of folie à deux using the terminology identical to this Thesis (Dewhurst, 1956; Enoch, Basant, 2020). To illustrate, folie imposée, where a dominant person, also referred to as the 'primary', 'inducer', or 'principal', initially forms a delusional belief during a psychotic episode and imposes it on another person – the 'secondary', 'acceptor', or 'associate'. Secondary individuals do not typically exhibit a genuine psychotic disorder. When individuals are admitted to the hospital separately, their delusions related to induced beliefs usually dissipate.

These are extreme examples of the resonant magnetic induction on the highly permeable personality, which can be a developmental tool for developing empathy and healthy socialisation. Conversely, an abusive induction can result in the recipient developing delusional beliefs and a loss of identity.

In conjunction with the social contagion previously discussed, the phenomenon of emotional contagion has been investigated within a multitude of social contexts, including small groups, families, and organisational settings. It has been observed to manifest in a manner that is influenced by the cultural norms and values of the larger group.

*Culture as an EM Field*

Some authors examine organisations for the "emotional contagion" phenomenon in customer interactions (McColl-Kennedy and Smith (2006). A substantial body of research indicates that any organisation has an emotional culture comprising languages, rituals, and values, including rules governing the feelings that workers should and should not express. These researchers posit that emotional culture is closely aligned with the concept of the "emotion climate" or moral (Schrock, Leaf, and Rohr (2008).

In this Thesis the collective field of personality dynamics can be called “culture” which in definition by APA (2023) means a collective of a specific behaviour, language, customs, habits, and beliefs of individuals within a social group. To compare, in biology, culture means the growth of organisms, such as bacteria, or human cells, under specific conditions (Dictionary of National Cancer Institute).

In 2017, Steve Rio, the co-founder of Enfold and Briteweb Network, proposed that culture is a force field. He explained his perspective, which posits that cultural force fields are energetically charged and powered by a team’s affinity to one another and to the company’s purpose (Rio, 2017). Force field is conceptualised by S.Rio as an invisible barrier that supports and protects those within it, while simultaneously creating a magnetic attraction to those outside of it. In essence, it is merely an accurate depiction of an electromagnetic field generated by a moving charge. The concept of culture can be understood as an expansive, intangible force field that pervades and informs our daily lives. This force field is constituted of a variety of elements, including shared beliefs, norms, values, and traditions, which interact with one another in a dynamic manner.

The field of culture is characterised by a specific shape and set of boundaries. The boundaries of this force field are not fixed; they can shift and change in response to a number of factors, including technological developments, the process of globalisation, and individual experiences. In some contexts, it may be characterised by rigidity and uniformity, promoting conformity and traditional values. Conversely, in other settings, it can manifest as a more expansive and fluid phenomenon, fostering diversity and innovation.

In a manner analogous to the way in which physical forces can repel or attract objects, cultural forces can shape behaviours and relationships. Individuals operating within this field may experience a sense of pressure to align themselves with the prevailing norms. However, they may also derive a sense of empowerment from subcultures or counter-narratives that challenge the mainstream. Movements within this field - personal growth, social change or community interaction - can be influenced by the intensity and direction of cultural forces. Some may feel propelled forward by progressive ideas, while others may struggle against inertia or the resistance of old beliefs. Furthermore, the cultural force field is distinguished by the presence of feedback loops. As individuals engage in interactions and the exchange of ideas, the field itself undergoes a process of evolution. This may give rise to the emergence of new beliefs and the dissolution of established norms, resulting in a continuous cycle of adaptation and transformation.

In essence, social culture can be conceptualised as a physical force field, which represents the complex, ever-shifting dynamics of human interaction. These dynamics shape our identities and communities, while responding to the energy processes of individuals and collective movements.

### *Personal Boundaries As A Force Field*

The concept of personal boundaries can be understood as an electromagnetic field generated by individuals and surrounding them. When personal boundaries are respected, energy flows, which in turn fosters a connection within and between people. In the absence of such respect, the experience may be described as an energy drain, comparable to the effect of resistance in a circuit, which impedes the flow of current.

Just as this field exerts influence over nearby charged particles, the boundaries define how the individual interacts with others. The boundaries can be perceived when an individual's space is entered by another person, which may be analogous to how one might perceive a magnetic force when approaching a magnet.

Similar to magnetic interactions in physics, repulsion can be observed when an individual's boundaries are violated, such as when someone crosses their personal space or displays disrespectful behaviour. In such instances, a sensation akin to positive

and negative charges repelling each other may be experienced. This can manifest as an instinctive urge to move away or assert one's limits. In contrast, the attraction phenomenon can be observed in positive interactions where boundaries are respected. These interactions may evoke a sense of warmth and security due to the positive charge between the individuals involved.

In a manner analogous to the way in which objects have frequencies that resonate with one another, individuals also exhibit a capacity for resonance. When an individual is in tune with their own boundaries, it can be said that they are operating at the optimal frequency. Should an individual's energy be perceived as disrespectful or invasive, it may elicit feelings of discomfort or tension, indicating a discordance in frequencies.

The concept of boundaries can be analogous to that of thresholds. In physics, a threshold is defined as the point at which a change occurs, such as a phase transition in matter. These thresholds can also be discerned on an emotional level. For example, minor violations may initially be tolerated, but as they accumulate, the critical mass is exceeded, and a point is reached where it becomes necessary to assert boundaries in order to restore equilibrium.

In physical systems, feedback loops regulate behaviour, thereby influencing the system's overall response. Similarly, emotional responses to boundary violations serve as a form of feedback. If an individual experiences feelings of anxiety or distress when another person oversteps a boundary, this is an indication that the internal system is prompting a re-evaluation of the situation and the reinforcement of the boundary in question.

### *Attachment Theory as Electromagnetic Interaction*

The fundamental principle underlying the operation of social groups is analogous to that of an electromagnetic force field. As a vector quantity, the electromagnetic field has a direction of movement. Given that electrons move from an area of lower potential to one of higher potential within an electric field, the current will flow in the opposite direction, from an area of higher potential to one of lower potential.

In other words, the electric field is always directed away from a positive source charge towards a negative charge. A positive charge (higher potential) can be described as a "giving" source, which motivates, enlightens, and pursues a target. In contrast, a negative charge (lower potential) can be described as a "receiving" source, which requires resources, seeks support, and grows and learns.

In the context of personality interactions, this phenomenon can be described as the transfer of knowledge and skills from individuals with greater expertise to those who are less experienced. To illustrate, we may consider the relationship between a parent and a child, a teacher and a student, or a trainer and a trainee.

**The Receiving Pole: The Pull**

In psychological terms, the concept of a negative charge pulling energy from a positive charge can be illustrated through dynamics of emotional dependence or attachment.

In a relationship where one partner feels emotionally depleted or insecure (the "negative charge"), they may draw energy or reassurance from the more confident and stable partner (the "positive charge"). This can manifest in several ways:

Seeking Validation: The partner with insecurities may constantly seek validation or affirmation from the other. They rely on the “positive” partner to provide emotional support, effectively drawing energy from their confidence and stability.

Fear of Abandonment: If the insecure partner fears losing their more confident counterpart, they might engage in behaviours that pull the other person closer, such as excessive communication or reassurance-seeking. This behaviour is akin to the negative charge pulling energy from the positive one, relying on the latter to feel secure.

Imbalance in Energy Exchange: Over time, this dynamic can create an imbalance where the positive partner may start to feel drained or overwhelmed by the emotional demands of the negative partner. This can lead to tension or resentment, as the positive partner's energy is continuously drawn upon without a reciprocal exchange.

Nurturing and Caregiving: In some cases, the positive partner may take on a caregiving role, feeling compelled to support the negative partner emotionally. While this can foster intimacy, it can also lead to burnout if the positive partner feels they are always giving without receiving the same level of emotional support in return.

This example illustrates how one person's emotional needs can create a dynamic where they "pull" energy from another, highlighting the importance of balance in relationships to ensure both partners feel valued and supported.

In friendships or family relationships, one person may take on the role of the "receiver" during tough times. This could be someone who is going through a crisis and needs support, while the other provides emotional comfort and understanding. The "negative charge" here represents the need for care and validation.

In therapy, the therapist often acts as the receiving source. The client shares their struggles and feelings, and the therapist listens and provides guidance. This dynamic allows clients to express their vulnerabilities and receive empathy and support in return.

In conflict resolution situations and in arguments, one person may take on the role of the "receiver" of the other's frustrations or criticisms. For example, a partner might listen to their significant other's grievances without becoming defensive. This creates a space for understanding and resolution, as the receiving partner helps diffuse tension.

In intimate relationships, one partner might share fears or insecurities, essentially becoming the "negative charge" that draws the other in to provide reassurance and support. This dynamic fosters deeper emotional connections and trust.

When someone experiences loss, they often become the receiving source of compassion and support from friends and family. Others may rally around them, offering help and understanding, which allows the grieving person to process their emotions in a supportive environment.

These examples illustrate how the "receiving" aspect in interpersonal dynamics can facilitate emotional exchanges and strengthen connections, highlighting the importance of empathy and support in relationships.

**The Giving Pole: The Push**

The movement of electric flow from a positive charge to a negative charge can be likened to certain psychological phenomena, particularly in terms of motivation and attraction.

In psychology, we often discuss the concept of motivation as a driving force that propels individuals toward goals or desires. The positive charge can represent something

desirable or rewarding, such as goals, values, or positive emotions, while the negative charge may symbolise obstacles, fears, or negative experiences.

When we pursue something we want (the positive charge), we often feel a pull towards it, similar to how electric flow is drawn towards a negative charge. This can manifest in behaviours like striving for success, seeking relationships, or pursuing personal growth. The tension between the positive and negative aspects can also be reflected in our emotional experiences, where we may feel drawn to what fulfils us while simultaneously navigating fears or challenges that inhibit our progress.

This analogy highlights the dynamic interplay of attraction and repulsion in human behaviour, suggesting that our psychological motivations can be influenced by both positive aspirations and negative fears, much like the forces at play in an electric circuit.

The interaction between people can be understood through the lens of the electric flow analogy, where positive and negative charges represent different emotional or relational dynamics.

In this context, the "positive charge" can symbolise traits like warmth, kindness, and enthusiasm—qualities that attract others and foster connection. These positive traits can create a sense of safety and comfort, drawing people together in friendship, collaboration, or romantic relationships.

Conversely, the "negative charge" might represent conflicts, misunderstandings, or emotional barriers. When one person exhibits negative traits—such as criticism, defensiveness, or withdrawal—it can create distance or tension, much like a repulsive force. This can lead to defensive behaviours or avoidance, where individuals feel compelled to retreat from the interaction.

When two individuals interact, their emotional energies can create a push-and-pull dynamic. Positive interactions can enhance attraction and rapport, promoting deeper connections. However, if negative emotions or conflicts arise, they can disrupt the flow, leading to misunderstandings or emotional withdrawal.

Ultimately, just as any natural field strives for restoring wholeness, as electric flow seeks balance, healthy human interactions strive for a harmonious exchange of positive energy, where empathy, understanding, and support can overcome the barriers that

sometimes arise. This interplay highlights the importance of fostering positive connections while also addressing and navigating negative dynamics to maintain strong relationships.

In human society the personal separation process comes on 4 levels:

1. Biological Separation - when a child can be more independent from the mother, can breathe, eat, and walk on its own.
2. Mental - having your own “mind”: impulses, will, desires
3. Psychological - ability to handle own feelings, emotions and relationships, to be stable, content, satisfied within yourself.
4. Social - skills to adapt and integrate into an environment and groups of people, find a job and become independent financially and territorial.

Failing to separate on any of four levels, the person still dependent and attached - winded to the Primary coil, not being able to find its own ground, own AC input and become autonomous.

*Overcurrent*

Overcurrent in electrical terms refers to a situation where the flow of current exceeds the safe or intended level, potentially leading to damage or failure of a system.

Excessive potentials or overcurrent in electrical systems can be seen as analogous to psychological states of overwhelm or burnout. In electricity, when there's too much current flowing through a circuit, it can lead to overheating or even damage. Similarly, in psychology, when individuals experience excessive stress, emotions, or responsibilities beyond their capacity to manage, it can result in emotional or physical strain.

In psychology, the concept of an 'overcurrent' can be understood as a form of emotional or cognitive overload. When an individual's attention (current) is focused in a single direction to an excessive degree, it can overwhelm the system and cause a state of rigidity, preventing the desired outcome from emerging.

For example, during an anxiety attack, overwhelming feelings, thoughts, and physical symptoms exceed the person's ability to manage them, leading to panic, stress, or

burnout. Similarly, cognitive overload occurs when someone is burdened with too many tasks or information, causing stress, poor decision-making, and mental exhaustion.

In relationships, overcurrent refers to overwhelming emotional intensity. In relationships or group dynamics, overcurrent can represent the strain of too many conflicting demands or unresolved issues, leading to potential breakdowns in communication and connection. Recognizing the signs of overload — whether in electrical circuits or human emotions — allows for intervention before negative consequences arise, promoting healthier interactions and overall well-being.

For instance, during an argument, emotional flooding happens when one person becomes overwhelmed by their feelings, leading to shouting or shutting down, which harms communication and escalates conflict. Codependency is another example, where one partner excessively relies on the other for emotional support, creating emotional burnout and resentment in both individuals, damaging the relationship.

In both contexts, overcurrent represents a surge of emotions, thoughts, or behaviours that exceed healthy limits, causing distress and potential harm. This state of overload can manifest in various ways—anxiety, irritability, fatigue, or a sense of being "burned out." Just as electrical systems need safeguards like fuses to prevent damage from overcurrent, individuals benefit from coping strategies and self-care practices to manage stress and prevent psychological harm.

*Energy Minimisation Law*

As electrons approach the nuclei, they transition from a higher energy state to a lower energy state, which is referred to as the ground state. This process is driven by the tendency of electrons to occupy the lowest energy level possible, which is consistent with the universal tendency of matter to attain the lowest energy state that is available to it. In the absence of external energy input, electrons will occupy the lowest energy level available to minimise the overall energy of the atom. This is in accordance with the theoretical framework proposed by Nagwa on Physics for the Third Year of Secondary School (Nagwa, 2023).

The externally charged particles alter the energy level to a higher state. The outer layers possess a greater energy density and are also more energy-consuming. The excited state is destabilised due to the presence of surplus energy, which can be spontaneously emitted, resulting in the electron returning to its ground state.

The energy minimisation law is applicable to both the single atom and the entire human energy system. This implies that the notion that an individual can sustain a high level of energy output and experience growth in their energy reserves without external support is erroneous. The notion that an individual can achieve success without external support is a fallacy. A person can only achieve a prosperous and stimulating state with sufficient external support and in an environment conducive to growth when they have the appropriate network size and social ties. The adage "there is always safety in numbers" is an accurate observation.

Therefore, it is crucial for an individual's positive personality development to be able to identify and interact with like-minded individuals who can provide support and encouragement. A positive relationship with family members, partners, friends, and colleagues is a valuable asset.

It has been demonstrated that humans have an inherent psychological and emotional need to feel a sense of belonging to a person or entity they hold in high regard. There is a substantial body of empirical and theoretical evidence to support the assertion that the desire to establish positive social connections and a sense of relatedness is a universal and fundamental human need (Pardede, 2023).

The human experience of loneliness, the feeling of being unwanted or useless, outcast and excluded, can be understood as a state of low energy or 'ground', characterised by feelings of emptiness and despondency. However, this state can also provide a sense of security. In this state, an individual may lack the motivation to engage in social interactions or to reveal personal information.

In physics an electron may transition back to a lower energy level, initially resulting in an energy release, but subsequently leading to a downgrading of energy. Same way the social movement of downshifting is predicated on this energy release, whereby individuals relinquish their conventional responsibilities and social obligations, leading to

a sense of increased freedom. However, once these individuals have achieved a settled state, the low energy may potentially exert a destructive influence.

Energy levels serve a protective function, acting as a boundary that defends against external influences. The greater the number of shells an atom possesses, the more effectively it is safeguarded. From a psychological perspective, individuals with high energy levels tend to display a multitude of interests and talents, as well as a strong capacity for relationships and a well-developed intelligence across various domains. They often exhibit a more stable and confident sense of self, as well as a greater capacity for happiness. These qualities collectively constitute a "protective boundary," which can be conceptualised as a psychological and personal safety cushion.

Individuals who are exposed to external stimuli tend to exhibit elevated levels of energy, motivation, and cognitive resources. It is of the utmost importance to arrange one's environment, relations and lifestyle in a manner that ensures a connection to resources, to higher standards of living, and to kind and open individuals who can provide a source of positive reinforcement and support. Just as atoms gain energy when they are charged, humans also require a similar source of positive reinforcement and support to maintain a healthy and balanced state of being.

### *Dunbar Number*

British anthropologist Robin Dunbar (2010) conducted the research which stated that humans have only "an inner core of five intimates". In 1993 he studied brain size, group size and language development in humans and primates and developed the concept of 'Dunbar's Number' - 150. (Appendices, Figure 9).

This represents the approximate maximum number of individuals with whom humans can maintain stable relationships simultaneously. The larger network comprises over 150 individuals, collectively referred to as "weak ties". This figure corresponds to an atomic configuration and the law of atomic attraction.

In the context of atomic structure, any alteration to the number, configuration, or energy state of the nucleons can disrupt the equilibrium and render the nucleus unstable, leading to the formation of a radioactive atom. Similarly, the disruption of electrons in

close proximity to the nucleus can also result in the emission of radiation (Environmental Protection Agency, USA). In regards to personality dynamics this disruption can be presented in the context of a traumatic incident on the core level, which results in a more profound split in personality.

### *Charge Separation: The Energy Source*

The generation of energy is contingent upon the separation of charges. This phenomenon is made possible by the existence of a potential difference, which can be defined as the discrepancy in energy levels between positive and negative points within a circuit. In an atom, this is a difference between the nuclear and electronic levels of energy. The concept of charge separation in electricity can be related to the psychological concepts of conflict and tension in social dynamics. In electricity, charge separation occurs when positive and negative charges are displaced, creating a potential difference that can lead to a flow of current. This can be compared to how unresolved conflicts or differing perspectives in a group can create tension and energy spikes. The build-up of tension in a social situation, much like the potential difference in an electrical circuit, can lead to an eventual release - whether through resolution, catharsis or, in some cases, confrontation.

Just as the separation of charge can lead to productive energy (like powering a device), the resolution of psychological tension can lead to personal growth and stronger relationships. In both cases, understanding the underlying forces - whether electrical or emotional - can lead to more effective interactions and outcomes.

Psychological separation is the main content of the parent-child relationship in adolescence. It is a process in which individuals seek independence, autonomy and self-awareness on the basis of forming a close emotional bond with their parents (Jianchao, 2022). In the process of individualization, individuals need to keep a distance from their parents and avoid being controlled by their parents in order to develop their personality (Erikson, 1968).

The separation of an individual from the parental family can be conceptualised as a difference in potential (voltage), which generates charge (inspiration) and a flow of

energy (new perspectives). This process is crucial for individuals to establish their identity and form a new family unit. The separation process generates the energy flow and power needed for new beginnings.

Should charge separation occur unfavourably, the resulting potentials will be split and obstructed at the divided position. This phenomenon may be interpreted as a form of trauma within the context of personality dynamics, for example, a person can experience shock or freeze in fear, and this will stop the current of energy. The trauma position is characterised by potential energy, which is subjected to additional pressure from the voltage at each triggering event. However, the absence of current precludes the possibility of energy flow at this juncture. The trauma point cannot be transformed into kinetic energy until the split is resolved and the potentials can interact and react, thereby restoring the current flow.

In an electric circuit, the process of charge separation can become obstructed in the event of a short circuit or an open circuit. To illustrate, if a capacitor is incorporated into a circuit and the pathway for charge flow is obstructed due to a broken wire (conductor) or defective connection, the positive and negative potentials cannot separate as intended. This prevents the capacitor from storing charge in a manner analogous to how an emotional blockage may prevent the body from processing sensations and hinder the healthy release of feelings. In both cases, the system is unable to function optimally due to an obstruction in the flow and separation process.

A psychological example of a blocked charge separation process could be seen in emotional suppression. For instance, when someone tries to suppress or avoid their emotions (like anger or sadness), they prevent the natural process of emotional release or expression. This blockage leads to emotional buildup, creating internal tension, similar to how charges in a system are prevented from separating, causing imbalance or stress. Just as charge separation is necessary for electrical flow, emotional expression is needed for mental well-being. Without it, the person might feel mentally "constrained" or overwhelmed.

Charge separation can be created by a number of factors, including friction, which is a relevant phenomenon in human life and can be illustrated in the context of physical

contact, whether abusive or affectionate. Additionally, charge separation can be caused by pressure, heat, and other charges. Both pressure and heat increase the energy of the object, which can cause electrons to break free and separate from their nuclei. The separated charge can attract electrons to or repel them from a nucleus.

The separated charge can attract electrons to or repel them from a nucleus. In a psychological analogy, the nucleus represents the core self, the identity, while the electrons symbolise emotional responses, connections, and relationships.

The degree of trauma is directly proportional to the proximity of the repulsion to the nucleus. A sufficiently strong force could be applied to an object to the extent that it would split an atom, resulting in the pulling of electrons from the nuclei. This phenomenon bears a striking resemblance to a traumatic experience of life-and-death situations.

With a growing organism, the younger the body, the greater the potential for extensive and profound damage to occur in the event of a traumatic experience due to incomplete development of the equilibrium between fundamental qualities that are responsible for maintaining stability and connectivity with the surrounding environment. These qualities are analogous to those found in any electromagnetic device and include conductivity, resistivity and susceptibility (permeability and permittivity).

When the charge is separated but cannot be processed due to the limitations of the individual's abilities, the energy flow can be obstructed. This, in turn, affects all psycho-emo-somatic dimensions of the personality, leading to three possible reactions in interactions with others:

1. **Attraction:** Following trauma, some individuals may experience an intense need for connection and support. Just as a positive charge attracts negatively charged electrons, the trauma can draw the person toward others who can provide understanding and validation. They might seek out friends, family, or therapists, longing to rebuild a sense of safety and trust. This attraction can be a crucial part of the healing process, as supportive relationships help them process their trauma and regain a sense of stability.

The dynamic of attraction can manifest in two forms: the Fight response or the Fawn (pleasing) trauma response. If left unresolved, this can result in the development of the Anxiety attachment style.

2. **Repulsion:** On the other hand, trauma can also lead to feelings of fear, shame, or isolation, akin to a negative charge repelling electrons. The individual may feel overwhelmed and retreat from others, pushing away those who try to get close. This repulsion can be a defence mechanism, protecting them from further emotional pain or vulnerability. They might withdraw into themselves, avoiding situations that trigger memories of the trauma, which can hinder their ability to heal and reconnect.

Repulsive dynamics can lead to the Flight trauma response, often manifesting in ignoration and resistance. It can develop into the Avoidant type of attachment.

3. **Distraction:** Distraction is often understood to imply a shift in focus away from a task or activity of greater importance (Otsuki, 2023). In relationships of greater significance to the individual, such as those with parents, both attraction and repulsion may be present simultaneously.

Given the impossibility of this movement, it manifests as a shock and frozen trauma response. This phenomenon is referred to as an "interrupted movement," which often results in dissociation and impedes the integration of the traumatic experience within the individual. Similarly, "survival guilt" is predicated on the dual impulses of attraction to save (push) and repulsion to escape (pull) due to the imminent danger to the self.

Ultimately, the interplay between attraction and repulsion reflects the complex emotional landscape following trauma. Individuals may oscillate between seeking connection and retreating into isolation, as they navigate their feelings and attempt to find a new equilibrium within themselves. Understanding this dynamic can help in recognizing the various ways trauma influences relationships and self-perception, highlighting the importance of support and compassion during the healing journey.

It is possible to cultivate qualities that will safeguard the psyche and prevent the regular occurrence of traumatic experiences. In the context of physics, these are referred to as capacitors and resistors, or fuses. The inclusion of capacitors and resistors serves to

enhance the overall safety and security of the system. The fundamental purpose of a capacitor is to regulate the separation of charges. The prevention of a charge separation mechanism is the defining characteristic of a capacitor. The ability of a capacitor to collect charge at a slower rate is a crucial aspect of its functionality. In circuit, as a device's capacitance increases, its protection against traumatic experiences improves.

The relatively minor capacitance of children compared to adults renders them more susceptible to traumatic experiences. Furthermore, children cannot utilise the resistor systems for energy dissipation to the same extent as adults. Additionally, the energy level is closer to the ground state and much lower than that of adults. This renders children particularly susceptible to traumatic experiences, given that children lack the same degree of protection and security as adults. Consequently, traumatic damage is more deeply embedded within their personality, posing a more substantial threat to their well-being than for adults who have undergone comparable experiences. In the most adverse scenario, the splitting apart can be so pronounced that it exceeds the electromagnetic level, giving rise to a phenomenon analogous to nuclear fission.

### *Nuclear Force Level of Separation*

The separation of charge at the core level of personality can be compared to the nuclear fusion and fission processes observed at the atomic level. Given that the human body is radioactive, it can be postulated that similar unstable atomic reactions may occur within the nucleus core (Harvard Natural Sciences Lecture Demonstrations, 2024).

It is crucial to acknowledge that all of the physical processes that sustain human life, including oxygenation, combustion, and gene construction, are fundamentally chemical in nature and do not involve nuclear reactions (Baird, 2013). It is more frequently the case that the human experience of change and transformation occurs at the level of electrons.

Although nuclear reactions do occur within the human body, they are not typically utilised by the body itself. Nuclear reactions are inherently dangerous and have the potential to cause chemical damage, which the body may be able to discern and attempt to rectify.

A nuclear reaction is typically associated with a transformation within the core. The process of core (nuclear) transformation is a rare and highly energy-consuming phenomenon that occurs at a level beyond the psychological ego. From this Thesis' perspective, the nuclear reaction can be observed not only at the physical level but also at the mental, psychological, and even spiritual levels. The emergence of a new phenomenon from the reaction can be observed in the context of life-and-death events.

This Thesis puts forth the proposition that the nuclear reaction at the core level of personality is, in essence, a transformation rather than a mere change. Once initiated, the transformational process reaches a point of no return to the original innate state, undergoing a metamorphosis in the transition. Furthermore, this process occurs within the spiritual realm.

The spiritual realm may be observed, for instance, at the stage of conception, which is referred to as the Zink Spark (Dunkan, 2016; Bell, 2016). This concept has recently been elucidated by researchers, who have postulated that it may be conceptualised as a light entering matter, at least visually.

According to Tom O'Halloran, fluorescence microscopy studies have demonstrated that the zinc spark can be observed outside of the cell (Paul, 2016). This can be taken to indicate the presence of field radiation. The Zink spark, which is actually enlightening, is the result of the creation of a new life form, which is an irreversible process that can be observed as a core nuclear transformation. This process may be considered analogous to the Big Bang theory in terms of its fundamental nature and the scale of its impact.

The nuclear physicist and former Director of the Reed College Nuclear Reactor, Stephen Frantz argues on Quora open source platform (Quora, Inc.) that a radioactive atom within the human body undergoes a decay process that emits radiation at a rate of approximately half a million times per minute. This process has occurred continuously throughout the lifespan. Human beings and other living organisms have evolved in an environment containing a substantial amount of radiation. As a result, the body has developed mechanisms to cope with this constant exposure.

The concept of core identity can be defined as the fundamental and enduring characteristics that are intrinsic to the human condition. These traits are biological and

energetic in nature and encompass a range of factors, including genes, race, gender, emotions, self-consciousness (Grandy, 2009). These traits and characteristics are fundamental and enduring throughout the lifespan. This allows us to conclude that the core of personality is determined, in comparison to the free-will aspect, which can be defined as the electron interactions.

All fields and their corresponding atoms are driven by the intrinsic tendency to attain a state of stability. In order to achieve this, the atom expels energy from the nucleus in the form of a particle or ray. This process is referred to as radioactivity. An unstable atom is considered a radioactive atom, and an imbalanced personality can be considered radioactive, in the sense that it is characterised by an excess of internal energy within the nucleus, which can lead to a harmful reactivity.

As a radioactive atom emits harmful radiation that can destabilise and damage any object it comes into contact with, a reactive and abusive person can cause a serious emotional or physical harm to those in their vicinity. Both are frequently unpredictable and corrosive forces that cause enduring, sometimes imperceptible damage and can be challenging to evade. This comparison serves to illustrate the capacity of toxic and abusive behaviours to leave enduring scars on individuals and environments, in a manner analogous to the contamination and harm caused by radiation to ecosystems over time.

The following section elucidates the destructive and unpredictable behaviours that both radioactive atoms and highly reactive individuals can exhibit.

**Unstable and Unpredictable**

The individual in focus displays a lack of stability and predictability, exhibiting a tendency to react rather than reflect, analyse and act purposefully. As a result, their behaviour is largely unpredictable. Such individuals may exhibit mood swings, verbal outbursts, and erratic behaviour with little or no advance warning, thereby creating a pervasive atmosphere of distress and apprehension among those in their immediate vicinity. It is

impossible to predict with certainty when the next outburst or attack will occur, akin to the unpredictability of a radioactive atom.

**Harmful Influence**

An individual who is reactive may have a detrimental effect on those in their immediate vicinity. The verbal, emotional, or physical abuse inflicted can result in significant psychological trauma, emotional distress, and even long-term physical harm. The damage may not always be visible, but it can be just as real and damaging as that which is visible.

**Invisible Damage**

The emotional or psychological harm caused by a reactive person is frequently imperceptible. The damage is internal, and those not directly involved may be unaware of the extent of the distress experienced by the individual in question. The individual experiencing abuse may even downplay or conceal the extent of the damage, due to feelings of fear or shame.

**Corrosive Effect Over Time**

The radioactive material will continue to decay over time, with each release of radiation resulting in an increase in contamination of the surrounding environment. The effects of exposure are cumulative, often resulting in long-term consequences. Similarly, the effects of being in a ‘toxic’ abusive relationship accumulate over time. As time progresses, the victim may experience a gradual decline in self-esteem and mental or emotional well-being, as a result of the sustained abuse. The longer an individual remains in the presence of an abusive person, the greater the potential for psychological damage, which may not be fully realised until much later.

**Difficult to Escape**

Once a material has been rendered radioactive, it is not a straightforward process to deactivate it. The containment of radiation or its removal from an environment frequently

necessitates considerable effort and the implementation of protective measures. Similarly, it can be exceedingly challenging to extricate oneself from the influence of an individual who is prone to reactivity. Abusers are capable of exerting control over their victims, fostering a sense of dependency, and preventing them from accessing support networks. The decision to terminate the relationship may be fraught with difficulty due to the presence of fear, emotional manipulation, or control tactics.

**Spreading Harm**

The radiation emitted by a radioactive atom has the potential to disperse and impact regions that are distant from the source. The consequences of a small amount of radiation can be far-reaching if it is not contained. The intoxication of a reactive person has the potential to cause harm to those in their vicinity, whether directly or indirectly. The abuser may cause harm not only to their primary victim but also to others in their vicinity. This may be achieved by creating a toxic atmosphere in a workplace, family, or community, or by isolating and damaging relationships.

**Eventual Decay or Transformation**

Eventually, with years, a radioactive atom undergoes a process of decay, resulting in the emission of radiation at a reduced level as it transitions to a more stable form. Nevertheless, this process can be lengthy, and the damage incurred during the decay period is frequently irreversible. It is possible that reactive individuals may eventually, with time, undergo a change in their behaviour. However, this change is often contingent upon their willingness to seek assistance and to make tangible and consistent efforts to reform. It is also important to note that not all individuals who have been subjected to abuse will be able to undergo a transformation and achieve healing.

Protection against a harmful environment is analogous to that observed in personal relations and in the context of a radioactive environment. This is not an appropriate occasion to negotiate a more favourable arrangement or to deliberate upon the terms and conditions. Identifying potential avenues for reducing exposure time, increasing distance, or shielding against the harmful source is imperative. It can be reasonably assumed that the most vulnerable individuals, namely children and those with mental

instability, will be the first to experience the harm caused by a psychologically radioactive environment.

# IV. DISCUSSION: PRACTICAL APPLICATION FOR PSYCHOTHERAPY

## 1. Healthy Personality Dynamics

In order to comprehend the energy processes of mental health through the lens of electrical circuits and Ohm's Law, it is possible to draw an analogy between the manner in which electrical energy flows in a closed circuit and the manner in which psycho-emo-somatic energy flows in the body and brain. This analogy enables us to investigate the dynamics of mental health in terms of energy balance, resistance, and current.

The analogy has been explained in detail in the Chapter Models of Energy Processes in Personal Dynamics, which, in short, is as follows:

**Voltage** represents an actual energy per charge created by the difference between two potentials at the present moment. This can be experienced in personality dynamics as a spectrum of a subtle feeling: from feeling firm and calm to feeling joyful, motivated, excited, energetic or stressed, strained and pressured. It is the drive (an engine) behind any emotion, thought or behaviour.

**Current** represents a flow of energy, a force of the stream, which in personality dynamics means an action, which could be also a spectrum from a natural flow of activity to a will-driven and enforced stream of personal power.

**Resistance** is an opposition to the flow of current and represents a protection and guarding of the energy flow - an ability to stop the action or balance the emotions, thoughts and actions. Resistance is very useful for keeping a healthy personal balance between the voltage and the current.

Different combinations of the proportions of voltage, current and resistance in a personal dynamics can cause a different state of mind.

### *Voltage (V) - Personal energy level*

In the mental health context, voltage could be seen as the energy, drive, or motivation needed for cognitive processes, emotional regulation, and physical actions. Positive mental health may correspond to a healthy "voltage" — where energy flows freely and

the person is motivated, clear, and engaged. In contrast, a lack of energy, feelings of apathy, or depression could reflect a low "voltage," where the individual struggles to generate or maintain motivation.

*Current (I) - Flexibility and flow of dynamics*

Current in the body and brain can be thought of as the flow of thoughts, emotions, and actions. When personal dynamics are healthy and balanced, mental flow is smooth, allowing for clear thinking, emotional regulation, and adaptive behaviours.

In situations of mental distress, like anxiety or procrastination, the "current" might be disrupted — thoughts may become scattered, overwhelming, or blocked, preventing smooth mental flow. In the case of created parallel processes (parallel circuits), the split can be experienced as losing yourself partially or fully, up to psychotic disorders.

*Resistance (R) - Psychological Boundaries*

Resistance in the psycho-emo-somatic processes could be thought of as an “immune system”, which represents the mental or emotional barriers in order to balance the stress. Normally it is done by regulating, insulating, blocking or slowing down the flow of cognitive and emotional energy.

High and persistent resistance might manifest as negative thought patterns (e.g., rumination, catastrophizing), emotional blockages (e.g., unresolved trauma), or stressors (e.g., chronic worry or external pressures).

High resistance means that less mental energy (current) can flow, leading to cognitive and emotional bottlenecks. For example, excessive stress or anxiety might act as resistance, preventing the free flow of mental energy and contributing to mental exhaustion or difficulty in problem-solving.

## 2. Energy Balance as Health Balance

In order to comprehend the energy balance in mental health from an electrical energy standpoint, it is essential to recognise that this state is characterised by a sufficient level of motivation (voltage), effective mental energy flow (current), and a manageable level of

resistance. Regardless of the process in question, it is imperative to acknowledge that any imbalance can be compensated for and harmonised.

For example, when the voltage is high, it can be experienced as a high potential, high drive, motivation, and emotional charge. This will result in the generation of a robust flow, current, movement and behavioural activity. It is possible to undertake a great deal of work when the voltage and current are at a high level. The sensation can be described as follows: I am capable of achieving great feats, even the seemingly Herculean task of moving a mountain.

In order to achieve a more ambitious goal in life, it might be necessary to increase the voltage (effort, intention, stress) while simultaneously reducing the resistance (opposition, reluctance, defence). This approach will only be effective if the flow is free of obstacles, such as resistance.

Healthy Resistance can be conceptualised as an integrated system comprising physical, mental and psychological components. It facilitates a healthy work-life balance, ensuring protection against the risk of overheating and burnout. Implementing breaks and replenishing energy resources through focusing on one task per job, minimising tasks, delegating, releasing accumulated stress, eating a healthy diet, and getting sufficient rest to provide individuals with sufficient resilience.

## 3. Healthy Individualisation: The Charge Separation process

Healthy personality dynamics can be understood as a fine balance between various energy processes, including voltage, current, and resistance. For an autonomous adult individual, maintaining equilibrium, regulating, and sustaining energy are intrinsic and natural processes.

In schema therapy, the "healthy adult" represents a psychological state of maturity, characterised by the capacity for optimal functioning, the capacity for action, and strength. The healthy adult is self-sufficient and capable of making informed and realistic decisions in everyday life, thus facilitating optimal functioning (Edwards, 2022).

This is consistent with Carl Rogers's notion of a "fully functioning person" and Maslow's concepts of self-actualisation and self-transcendence. Furthermore, it aligns with the pragmatist interpretation of the traditional concept of "wisdom" and the "wise self" (Salicru, 2023).

The human maturation process is lengthy, spanning several years of development. The principal process is separation, namely the process of becoming increasingly autonomous, capable, and self-sufficient. A crucial aspect of this separation process is the rise of energy, which is needed for the individual to gain sufficient resources and commence independent life-sustaining activities.

As previously outlined, energy generation is contingent upon the separation of charges. The genesis of life is contingent upon the separation of charges, whereby a new life form is created in a Zink Spark moment (See Chapter Nuclear Force). The blast of energy released at conception provides the impetus for the subsequent body growth within the womb. Subsequently, the foetus will undergo further differentiation, culminating in parturition.

This Thesis places greater emphasis on the psychological dynamics of the mother-child relationship, with a detailed examination of the subsequent stages of separation, commencing at the moment of birth and continuing through to the child's separation from the mother. This analysis draws upon the concept of electromagnetic interactions as a means of understanding the intricate and evolving nature of the bond between mother and child. This approach offers a compelling lens through which to view and comprehend the multifaceted and dynamic relationship between mother and child. While psychological development is inherently complex and not directly reducible to physical processes like electricity, we can draw some parallels to help explain the emotional and cognitive dynamics at play. The interactions of charged particles are governed by electromagnetic forces.

The following section will present a conceptual framework for understanding the stages of psychological separation through the lens of electromagnetic interactions.

*Stage 1 - Initial Attachment: Circuit Closed and Electromagnetic Attraction*

At the beginning of life, the child is heavily dependent on the mother, forming a strong bond. This can be compared to a closed electrical circuit where energy (affection, care, and emotional bonding) is continuously flowing between the mother and the child.

The magnetic attraction between mother and child can be seen through the lens of a conductive and inductive coupling, where the mother plays the role of the primary circuit and the child the secondary circuit.

The child's physical and psychological state is shaped by the primary circuit, whereby the energy received from the mother's attention, care, and support fosters a stable psychological equilibrium. At this stage parent - the primary circuit acts as an amplifier. It is a circuit which produces an increased version of its input signal. Parents will play the amplifier role for the dependent Child: takes care of needs, stands for the Child's interests, helps to make decisions, achieve goals, and bring through the desires.

Child copies the "circuit design" of the parent's will power and learns how to amplify himself by himself, he can amplify his own behaviour by applying his own will power in the desired direction.

The magnetic attraction between positive and negative charge is a fundamental phenomenon in electromagnetic interaction. In this context, the mother can be conceptualised as a 'positively' charged particle, providing energy (love and care) to the child in need, akin to a 'negative' particle. In early infancy, the child is "charged" with dependence on the mother, who serves as the primary source of nurturing, security, and emotional regulation. This attachment is powerful and nearly constant, much like the strong pull between oppositely charged particles in an electromagnetic field.

*Stage 2 - Emerging Independence: Increasing Resistance And Repulsion*

As the child begins to develop psycho-emo-somatic autonomy, the magnetic attraction to the mother begins to shift. The child starts to seek exploration and independence, leading to a reduction in the emotional force between the two. This phase corresponds

to the weakening of the electromagnetic attraction as the child begins to generate its own sense of self, own impulses and desires.

This shift may involve a weakening of the attraction or even a kind of mild repulsion, where the child's emotional energy no longer needs to be directly drawn from the mother. Just as charges repel one another, the child seeks to create space for itself.

Once a child starts to develop a sense of self and begins to resist the continuous influx of energy from the mother, trying to establish its own identity. In electrical terms, this is akin to introducing resistance into the circuit. The child may experience emotional discomfort or tension during this phase, as the "resistance" feels unfamiliar or difficult.

*Stage 3 - Differentiation and Boundary Formation: Energy Discharge, Field Distortion and Shielding*

At this stage the mother and child are becoming two separate fields. As the child further matures, it begins to differentiate itself from the mother. The child begins to discharge energy into its own systems, finding outlets for emotional and psychological expression without always drawing from the mother. This energy is less dependent on the constant input from the mother and more self-generated.

This stage involves the development of psychological boundaries — the child becomes more self-aware and starts to establish its own internal emotional regulation systems. In order to reduce the influence of the mother's emotional energy, the child creates a "shield" around itself, which allows the child to regulate its own emotional responses.

The child now develops its own electromagnetic field or personal space that is less influenced by the mother's field. The child may still feel residual influence from the mother (like a weak magnetic field), but it has developed a level of "shielding" that allows it to navigate its own path without being constantly pulled in by the mother's emotional energy.

This stage is marked by a greater sense of individual identity. As the child becomes more autonomous, there's an internal "discharge" of energy — not a complete severing of the bond, but rather a reallocation of energy. This can be likened to how an electrical

capacitor stores and releases energy in bursts, as the child learns to manage emotions and needs independently.

*Stage 4 - Integration of Internalised Energy: Circuit Reconfiguration, Capacitor*

In later stages, particularly during adolescence, the process of separation continues as the child internalises the emotional energy once primarily drawn from the mother. This internalisation process allows the child to regulate emotions independently, much like a capacitor that stores and releases electrical energy. This resembles how a battery stores energy that can be drawn upon for future use, without requiring continuous connection to an external power source. Same way, the child can now rely on its own internalised field and emotional infrastructure when needed, rather than constantly seeking energy from the mother's external field.

This can be seen as an integration of internalised support, where the individual no longer needs to rely as heavily on the mother for validation or guidance. In this stage, the "circuit" transforms: energy that was once externalised is now channelled internally.

*Stage 5 - Mature Separation and Autonomy: Balanced Energy Flow and Exchange*

In healthy psychological separation, the child (now adult) achieves an internal and external balance where they are capable of self-regulation and can draw from their own internal energy stores. The emotional energy between the mother and child can still flow in a modified way, but the child is no longer dependent on the mother for their emotional equilibrium. This is the point of mature separation, where the psychological circuit becomes self-sustaining.

The circuit is no longer closed in the way it once was, but rather the individual has created a dynamic system where energy flow is balanced, with emotional self-regulation being the central "power source." Compared to the previous stage, the adult does not have the capacity of the battery (DC power), but rather the stand-alone AC power circuit - it has an access and capability to use its own source of energy when it is needed for the restoration. The source of energy can be not only closed family members, as before but other people, nature, hobbies, sport, creativity, work, and meaningful life achievement.

The mother may still be a source of emotional support, but the energy exchange between the two becomes more subtle and less intense, akin to the gentle oscillation of electromagnetic waves that can transmit energy over a distance without overwhelming the system. While there is still an electromagnetic connection, it is no longer a dominant force in the child's psychological landscape. The adult can now engage in the relationship on equal footing, with less need for the intense attraction or repulsion that characterised earlier stages of development.

In essence, the psychological process of separation from the mother is akin to the changing electromagnetic dynamics between two charged entities. The early phase involves a strong attraction (like opposite charges), which then shifts to a phase of distancing and independence (like charges repelling), followed by the development of psychological boundaries (creating a personal electromagnetic field). The child ultimately internalises emotional energy (like a capacitor storing charge) and starts using his own source of energy, allowing for a more balanced and mature emotional exchange with the mother and the environment.

This framework helps illustrate how emotional interdependence and independence evolve over time, with the electromagnetic analogy offering a dynamic way to understand the shifting forces at play in the parent-child relationship. Numerous potential causes may impact an individual's development and influence attachment, resulting in a range of diverse psycho-emotional disorders.

## 4. Disorders as Energy Distortion Processes

The line between healthy and unhealthy dynamics is delicate, yet identifiable patterns can be recognised that contribute to the development of a specific state of health.

A reduction in **voltage** (motivation) may result in the development of feelings associated with burnout, a lack of initiative, or depression. If **resistance** is excessive, for example, as a result of stress, trauma, or catastrophisation, it can prevent the flow of mental energy, leading to feelings of being overwhelmed, confused, or unable to focus. A

deficiency or imbalance in **current** may be indicative of cognitive fatigue, mental obscurity, or an inability to make sound decisions.

1. Anxiety - High Voltage, Low Resistance

Anxiety can be conceptualised as an energetic process characterised by a high frequency of dynamic fluctuations between low and high states, which can be conceptualised as power spikes. In electrical circuits brief and recurrent occurrences typify spikes.

In comparison, a power surge in psycho-emo-somatic dynamics will manifest as a panic attack that can be conceptualised as a sudden and sustained voltage increase, lasting for three nanoseconds or more, as we know it from the electric power surge.

Such occurrences can be attributed to an inability to facilitate the necessary current and maintain balance protection in an environment characterised by increased demands. The aforementioned rapid changes are unable to reach a state of equilibrium due to the absence of sufficient resistance (insulation) within the system. They are stuck in the repeating feedback loop.

As with electrical circuits, the cause of such a condition can be internal or external. An internal cause can be an inability to maintain the internal energy required to switch the system on and off. As presented above in the Chapter Models of Energy Processes in Personality Dynamics, the function of the cognitive intellect is to control the switch/thermostat, which has the function of a resistor and should be able to maintain the balance. If this function is not developed, the resistance will be low, and the voltage and current will overheat the system causing overwhelming and meltdown.

There is another internal cause of power spikes and surges possible in a form of static electricity. In psychology it can be seen as the buildup of emotional tension or stress that accumulates over time. Like static charges, unresolved emotions or suppressed feelings gradually increase, often due to avoidance or internal conflict. A small triggering event, similar to a spark, can then cause a sudden emotional outburst or breakdown. After the discharge, there may be relief but also feelings of guilt or exhaustion.

An external cause can be defined as an induction situation, when a strong field affects nearby conductors, thereby inducing a voltage and leading to an unexpected power surge. From a psychological perspective, this phenomenon can be exemplified by a reactive parent who requests tasks that exceed the child's capabilities from their child.

In general, the inability to protect against internal or external processes that are either uncomfortable or even harmful results in a reduction in resistance, which in turn leads to an increase in current flow and the potential for overheating.

Recent research shows that the so-called safety behaviours associated with the amygdala contribute to anxiety (Beckner, 2023). The amygdala, a part of the brain, is in a constant state of vigilance, monitoring the environment for potential threats to one's well-being. These threats may be physical, psychological, or social in nature, and the fear response they elicit can often be irrational. Safety behaviours are defined as the actions undertaken in response to an imagined and irrational threat, with the objective of reducing anxiety. This is an attempt at shielding that is ineffective.

Research shows that safety behaviour is a powerful perpetuating factor in all anxiety disorders. It contributes to overthinking, overplanning, pleasing others, hypervigilance, hypochondriasis and various types of phobias, the need for perfection and control. At the root of it all is the problem of trust, which is rooted in issues of safety.

Some authors posit that the solution to anxiety is action (Magee, 2024), a claim that is, at least in part, accurate. Engaging in action will result in the release of some stress and a subsequent calming of the system. Although the basis of anxiety is an imbalance between pressure (voltage) and protection (resistance), it is also a consequence of a lack of regulatory skills that support one's personal boundaries.

An individual exhibiting symptoms of anxiety has likely failed to develop effective regulatory strategies for their life activities and values. They may also have struggled to cultivate self-trust and self-management. A probable cause is the absence of nurturing and instructive experiences in the real world (induction). Consequently, any additional stressor, challenge, or unconventional situation may disrupt the insulation and trigger

spikes in the system. In essence, the antidote to anxiety is secure protection skills, which can be developed at any age with the help of psychotherapy.

### 2. Depression - Low Voltage, High Resistance

In contrast to the process of anxiety, the one observed in depression is characterised by high resistance and low voltage. The term 'depression' is derived from the Latin 'deprimere', which translates as 'pressed down' or 'suppressed'. Repressing voltage through resistance results in the cessation of current, thereby preventing forward movement. From a psychological perspective, suppressing innate impulses, interests, and intentions can result in a loss of motivation and a diminished sense of purpose, reducing the capacity to engage in life activities and losing a "will to live".

In this context, high resistance can be conceptualised as a reaction indicative of overwhelming dynamics, whereby healthy boundaries become unhealthy restrictions. In psychological terms, depression is caused by excessive self-critical thoughts, which can be seen as a form of overprotection, resulting in high levels of resistance. Such dynamics may be attributable to various factors, including repressed and unprocessed feelings, negative mental habits, and other impediments to the emergence of healthy, productive thoughts. This can result in frustration, helplessness, or a sense of being unable to progress.

Depression shows off the aspects of the human psyche that lie below the active survival instinct, commonly known as the fight-or-flight response. In certain instances, the resistance can be so strong that it effectively ceases the body and mind. In essence, the underlying causes of depression can be attributed to an overwhelming sense of restriction and lack of autonomy, which manifests as an inability to be natural and a fear of living.

The prevailing view that “expression is the antidote to depression” is, to some extent, accurate. However, the issues of expression and activity are precisely those that individuals with depression tend to exhibit, as they display low motivation and a lack of intention to engage in or express any actions. This is attributed to the prevalence of

resistance, which has superseded control, manifesting as an overactive ‘inner critic.’ Consequently, the initial objective of psychotherapy is to reduce resistance by facilitating contact with the underlying distress, which the inner critic often shields. To facilitate the return of the current through the system, it is essential to allow for the integration of life and dynamics.

### 3. Energy Loss: The Partial Discharge

In electrical engineering, partial discharges are known as the 'cancer' of electrical insulation (Matthews, 2016). Partial discharge is an inefficient process that is characterised by high-frequency pulses and results in significant energy loss. The field energy is being dissipated from the system as a result of deficiencies in the conductor and its insulation. In the context of personality dynamics, such a process can give rise to a range of psychological and mental disorders.

In psychological terms, partial discharge can be likened to minor emotional or psychological stressors — thoughts, feelings, or conflicts that cause discomfort but aren't immediately overwhelming. For example, small daily frustrations or unresolved tensions in relationships can create psychological "discharges." While not catastrophic, these stressors, if unaddressed, can accumulate and contribute to burnout, anxiety, or emotional breakdowns.

In general, partial discharge can be conceptualised as a disruption in the person’s capacity to process and integrate experiences, resulting in the emotional or mental "leakage" of unresolved tensions. The mind attempts to contain overwhelming experiences, but without complete resolution, which can result in partial discharges, often manifested as anxiety, frustration, or emotional outbursts. This phenomenon frequently manifests when an individual is unable to fully process or confront specific emotions or traumatic experiences, resulting in their expression in a fragmented or incomplete manner.

The partial discharge occurs in proximity to the peak voltage, both in a positive and negative direction. This phenomenon gives rise to the hysteresis process, which can be conceptualised in psychological terms as a state of euphoria and dysphoria.

In the context of personality dynamics, partial discharge occurring at the peak of positive voltage may manifest as hysterical or manic episodes. These are characterised by abnormally elevated arousal, affect, and energy levels (Berrios, 2004). The symptoms may include irritability, hyperactivity, distractibility, elevated self-esteem, persistent wakefulness, flight of ideas, emotional lability, disinhibition, aggression, impulsivity, and psychosis.

At the peak of voltage in the negative charge, it can manifest in personality dynamics such as dysthymia, depression and apathy. The condition is characterised by a number of symptoms, including low mood, low self-esteem, a lack of interest and motivation, passive aggression, low energy levels, and emotional and somatic pain of an undefined origin.

It is recommended that high-frequency pulses be early detected in transformers in order to identify the presence of partial discharge, arcing, or sparking. Once partial discharge or arcing has been detected, the subsequent step is to locate the fault area, calibrate the voltage, and sort out the insulation.

It is advised that comparable measures be taken to ensure the optimal development of the psyche. Early identification of defence mechanisms (Strandholm et al., 2016), causing maladaptive psycho-emo-somatic dynamics may be of great clinical importance, as it may help predict the further development of personality disorders and somatic illnesses. Identifying the presence of defences during a patient encounter can help maintain an appropriate therapeutic and professional rapport.

In electrical systems, insulation is the most common cause of partial discharge. In individuals, insulation manifests as the development of personal boundaries. The lack of personal boundaries can result in the development of maladaptive defences when an individual lacks the resources to protect themselves in a healthy manner.

### 4. Unhealthy Inductive Coupling

Unhealthy inductive coupling in psychological family processes refers to the dysfunctional emotional or psychological feedback loops, like in electrical circuits, where one person's unprocessed emotional state or behaviour excessively influences or

induces similar responses in others. This creates a cycle of emotional contagion or mutual reinforcement, often leading to overdependence or enmeshment.

For example, a parent who is highly anxious may induce anxiety in their child, who then becomes hyper-vigilant or agitated themselves, further exacerbating the parent's anxiety in response. This feedback loop can prevent individuals from developing emotional autonomy or healthy boundaries, as their emotions are overly attuned or reactive to one another.

Such coupling can result in patterns like codependency, where family members are so emotionally intertwined that they lose the ability to function independently or manage their own feelings. Instead of supporting healthy separation and individuation, unhealthy inductive coupling traps individuals in a cycle of emotional dependence and conflict, hindering personal growth and resilience.

Should the parent figure impose demands and expectations that are not realistic for the child, a phenomenon known as a "step-up transformer" may result. This occurs when the secondary coil is subjected to excessive pressure or stress, which can lead to overheating and even a meltdown.

From an early age, a child lacks the necessary insulation and strength to conduct a healthy resistance, and the current may be too high and overwhelming. Should the maternal figure (in its capacity as a primary coil) prove unable to guarantee a secure, stable and safe energy flow to the dependent (in its capacity as a secondary coil), the potential for the emergence of a range of mental and psychological disorders is significantly heightened. Furthermore, the earlier the failure, the greater the likelihood of significant damage to the dependent system.

For example, leaving a child alone, in need and unprotected during the early months of their life constitutes child neglect or even abuse. Such circumstances give rise to considerable distress in the child, which may manifest as annihilation anxiety. The term 'annihilation anxiety' is used to describe a fear of imminent mental or physical destruction and extinction. This fear manifests in a number of ways, including feelings of being overwhelmed, losing control, suffocation, exploding, shrinking, being destroyed, loss of self-cohesion, and feelings of an impending catastrophe.

A significant proportion of psychological and mental disorders are rooted in fundamental anxiety, whereby energy is unable to effectively navigate the body's physiological systems. Annihilation anxieties are triggered by survival threats and are found early in life, though they can be engendered throughout the life cycle. They constitute a primal danger and are residuals of mental trauma. They have specifiable subdimensions and may occur in presymbolic form or be associated with fantasies in conflict/compromise formation. They may arise with or without anticipation and may be accompanied by controlled or uncontrolled anxiety. They are motives for defence and may be associated with particularly hard-to-overcome resistances.

Therefore, it is imperative to successfully complete the stage of inductive coupling. The primary coil must be well-regulated, energetic, stable, and balanced to supply a reliable, current flow into the secondary coil until it has sufficient winding and can become a standalone entity with its own reliable AC source.

### 5. Energy Blockages in Personality Dynamics

In psycho-emo-somatic health, a block in the electrical current flow can be understood as a disruption or obstruction in the natural energy flow. This may be the charge itself, particularly in instances of elevated voltage stress, or it may be the consequence of resistance and isolation within the circuitry, which can suppress, encapsulate, and generate a split, self-contained closed circuit loop. Alternatively, additional blocking processes may arise from the aforementioned split circuit loop.

This concept is analogous to how a blockage or resistance in an electrical circuit can prevent current from flowing smoothly. The isolation serves to impede the transfer of high or hazardous voltages between circuits. The use of isolation is typically employed for safety reasons and to protect against electric shock. Additionally, it is used to block high common-mode voltages present in our signals, which can otherwise prevent their measurement and damage equipment. From a psychological perspective, this block can be conceptualised as a multitude of factors that impede mental processes, emotions, or cognitive functions, ultimately resulting in distress, dysfunction, or imbalance.

*Cognitive Blocks (Thought Patterns)*

Just like a physical obstruction can prevent the flow of electricity, cognitive blocks can prevent mental energy from flowing freely. These blocks manifest as rigid or negative thought patterns that trap the individual in a loop, making it hard to think flexibly, make decisions, or problem-solve. Negative thinking styles, such as rumination or catastrophizing, act as mental blocks that prevent fresh or productive thoughts from emerging. This can lead to feelings of frustration, helplessness, or being "stuck." A person experiencing depression might find it difficult to move past thoughts of hopelessness, which blocks their ability to consider positive or alternative solutions to challenges.

*Emotional Blocks (Repressed or Unprocessed Emotions)*

Emotional blocks occur when emotions are not allowed to flow freely due to suppression, repression, or avoidance. Just as resistance in an electrical circuit can reduce the flow of current, emotional blocks can reduce a person's capacity to experience and process emotions fully. Unprocessed emotions (such as grief, anger, or fear) can accumulate, creating a backlog or emotional bottleneck that prevents the person from feeling or acting in a healthy, adaptive way. This emotional buildup can lead to anxiety, depression, or emotional numbness. Someone who has experienced trauma might unconsciously block out certain memories or emotions, leading to emotional numbness or difficulty connecting with others.

*Psychological Defences (Defensive Mechanisms)*

Psychological defences are unconscious strategies used to protect the individual from emotional pain or stress. While these mechanisms can be adaptive in the short term, they can create a block in emotional or psychological growth if overused or rigidly applied. They act like a resistor in the circuit, slowing or preventing the flow of mental energy. Overuse of defences such as denial, projection, or avoidance can lead to stagnation in emotional development or prevent the person from confronting difficult issues. A person who has experienced a difficult breakup might use denial to avoid

confronting the pain of loss, blocking their emotional healing and making it harder to move forward.

### *Cognitive Dissonance (Contradictory Beliefs or Values)*

Cognitive dissonance occurs when a person holds two conflicting beliefs or attitudes, leading to internal tension or a "block" in their thinking process. This dissonance can act like a resistor in a circuit, where mental energy is consumed in trying to resolve the conflict, making it difficult to think clearly or make decisions. This block causes psychological discomfort and can lead to confusion, indecision, and stress as the person struggles to reconcile competing beliefs, values, or behaviours. A person who values honesty but feels compelled to lie to avoid confrontation might experience cognitive dissonance, which can block their ability to act in alignment with their values and create inner turmoil.

### *Stress and Anxiety (Overload or Excessive Resistance)*

Stress and anxiety act like an overload in an electrical circuit. When a person faces overwhelming stress, the mental "system" becomes overloaded with tension, worry, or fear, creating resistance that prevents cognitive flow. High levels of anxiety or chronic stress can create a "circuit failure," leading to mental fatigue, burnout, and the inability to concentrate or engage in problem-solving. It's like having too much pressure in the system, which causes the current (mental energy) to short-circuit or slow down.

A person who is dealing with high levels of work stress might find it difficult to focus on anything else, leading to a block in their ability to perform other tasks or even engage in relaxation.

### *Perfectionism & Idealisation (Overload of High Demands & Expectations)*

Perfectionism can create a block in mental flow by setting excessively high standards and creating unrealistic resistance to any mistakes or imperfections. This resistance prevents the person from moving forward, because no action or output seems "good enough." The need to be perfect can prevent a person from taking risks, trying new

things, or completing tasks, leading to chronic dissatisfaction, procrastination, and mental fatigue. A person who is a perfectionist may spend so much time trying to make every detail perfect in a project that they are unable to complete it, leading to a feeling of being stuck or blocked.

*Trauma and PTSD (Disruptive Psychological and Mental Block)*

Trauma acts as a deep psychological or mental block, akin to a short circuit in the brain's emotional and cognitive processing systems. Trauma, especially unresolved or unprocessed trauma, can freeze certain aspects of a person's emotional or mental functioning, leading to a "block" in how they experience the world, their emotions, or their sense of self.

Post-traumatic stress disorder (PTSD), complex PTSD and trauma can block access to emotions, memory, or healthy coping mechanisms. This disruption in mental flow can lead to symptoms such as flashbacks, numbness, or hyperarousal, which make it difficult for the person to function normally in their daily life.

A person who has experienced a car accident may have intrusive thoughts and flashbacks (like a malfunctioning current), making it hard to engage in activities that remind them of the incident.

In sum, a block in the electrical current can be understood psychologically as any factor that disrupts or obstructs the natural flow of thoughts, emotions, or actions, often leading to mental or emotional distress. Identifying and addressing these blocks is key to restoring balance and mental well-being.

It is evident that traumatic experiences, encompassing both minor and major events, can serve as a catalyst for the aforementioned obstacles. This is due to the fact that trauma functions as a charge under high voltage in the current flow. The emergence of perfectionism, cognitive dissonance, and psychological defences may be a consequence of traumatic events or entanglements within the family system. This is because the aforementioned obstacles act as a part of a feedback loop. In electrical circuitry, a feedback loop is created when some portion of the output is fed back to the

input, which is then used as input for future operations. To break this cycle, the charge must be released and the voltage lowered.

## 5. Trauma and Entanglement as Energy Processes

Electromagnetic interference is defined in physics as a disturbance of an electrical circuit generated by an external source through electromagnetic conduction, induction, or electrostatic coupling.

The concept of electromagnetic conduction in personality dynamics and interactions can be compared to the manner in which emotions are transmitted between individuals. To illustrate, a leader's tranquil demeanour can disseminate a sense of tranquillity throughout a group, analogous to how electrical energy traverses conductive material, exerting influence upon others without direct engagement.

Electromagnetic induction can be conceptualised as a process whereby emotions or behaviours elicit analogous responses in others. To illustrate, a person's anxiety may precipitate anxiety in those in their immediate vicinity, akin to how an electric current in one wire induces a current in a nearby wire.

Similarly, electrostatic coupling may be conceptualised as a mechanism through which a highly charged emotional state (such as anger) can "transfer" and affect the emotional state of an individual in proximity, even in the absence of direct interaction. This phenomenon bears resemblance to the influence exerted by charged objects upon one another through an electric field. The aforementioned examples illustrate how a single source can exert influence over others through indirect, yet potent, channels.

An electromagnetic disturbance in the form of a pulse can affect the circuit's functionality and, in extreme cases, cause it to shut down completely. A transient disturbance pulse is generated when a source emits a short burst of energy.

1. Energy Source: The Primary Circuit

The processes that are generated by the source can be divided into two broad categories: single (isolated) events and repeated events. The source and the victim act as radio antennas. The ‘source’ emits or radiates an electromagnetic wave, which propagates across the space in between and is picked up or received by the ‘victim’ (Appendices, Figure 10).

The isolated events can cause a trauma, while the repetitive events encompass a complex trauma. The potential harm caused by these sources can be classified as either minor or severe - psychological or mental. In terms of severity, the most harmful source is a nuclear electromagnetic pulse. A nuclear electromagnetic pulse (EMP) in psychological terms could be compared to a sudden, overwhelming traumatic event that disrupts a person's mental and emotional state. Just as an EMP causes widespread disruption in electrical systems, a traumatic experience can temporarily "short-circuit" a person’s normal cognitive and emotional functions, leaving them disoriented and struggling to recover. In this traumatic event, the secondary person (the receiver, the victim) experiences a critical life-or-death encounter.

The pulse energy in the source frequently excites a “damped sine wave response” in the Secondary point (circuit or coil), called ‘Victim’. In physical systems, damping can be defined as the loss of energy (dissipation) from an oscillating system (Steidel, 1971). One example of this phenomenon is wave attenuation. In psychology, this can be compared to a sudden, intense emotional shock (like trauma) that causes an immediate, overwhelming reaction, followed by a more gradual, diminishing emotional response over time, similar to a damped sine wave. The initial impact is strong, but the intensity decreases as the person adapts.

It can be observed that electromagnetic interference is caused by the physical contact of the conductors, in contrast to radiated EMI, which is caused by induction (without physical contact of the conductors). In the case of electromagnetic disturbances in the electromagnetic field of a conductor, the disturbances will no longer be confined to the conductor's surface; instead, they will radiate away from it. This phenomenon persists in

all conductors, and mutual inductance between two radiated electromagnetic fields will result in the generation of EMI (CE Marking, 2023).

## 2. Coupling Electromagnetic Interference

Three distinct coupling types are known to exert varying effects on the EMI:

**Capacitive coupling** is defined as the phenomenon whereby a changing electric field between two nearby conductors induces a voltage change in the receiving conductor. In psychological terms, capacitive coupling can be compared to how subtle, indirect emotional influences affect others. For example, a person's underlying stress or anxiety may "spill over" into a group without direct communication, subtly influencing the mood of others, much like how electrical charges influence nearby circuits without direct contact.

Indu**ctive coupling** or magnetic coupling occurs as a change in the magnetic field between two conductors can induce a change in voltage in the receiving conductor. In psychological terms, inductive coupling is like how one person's behaviour or mood can indirectly influence others. For example, a leader's confident actions or positive attitude can "induce" similar behaviours or feelings in the group, even without direct verbal communication, much like how a magnetic field induces current in nearby wires.

In the context of **radiative coupling** or electromagnetic coupling, the source and victim are separated by a considerable distance, typically exceeding the wavelength of the electromagnetic wave in question. The source and victim can be conceptualised as radio antennas, whereby the source emits or radiates an electromagnetic wave that propagates across the intervening space and is subsequently received or picked up by the victim.

From a psychological perspective, negative radiative coupling can be conceptualised as a phenomenon whereby the influence of detrimental energy or negativity from a remote source can affect an individual at a distance. To illustrate, prolonged exposure to pessimistic or fearful media coverage has been demonstrated to elevate anxiety and stress levels in individuals, even in the absence of direct interaction with the source, akin to the detrimental impact of harmful electromagnetic waves on distant objects.

It should be noted that the presence of an external electric and/or magnetic field may disrupt the internal magnetic field. An illustrative example of such a disruption would be the introduction of a magnet in proximity to another magnet, a circuit with current, and so forth.

3. Psychological (Emotional) Trauma

Psychological trauma can be understood through **electromagnetic processes** — where the mind and emotions act like a sensitive circuit, and traumatic events create disruptions similar to interference or short-circuiting in an electrical system.

- **Overload**: Just as an electrical circuit can become overloaded and short-circuit, psychological trauma can overwhelm an individual's emotional capacity. This overload may cause the mind to "shut down" or dissociate, like a power surge that causes temporary system failure.
- **Frequency distortion**: Trauma alters how a person "tunes" into the world, like electromagnetic frequencies being shifted or disrupted. After trauma, a person might struggle to process emotions or experiences accurately, perceiving danger or stress even when it’s not present, akin to static or interference in a signal.
- **Constant feedback loops**: Just as EMI creates a feedback loop in electronic devices, trauma can trigger repeated cycles of intrusive thoughts, anxiety, and hypervigilance. The brain may "loop" over traumatic memories or fears, unable to "reset" or return to a baseline state of calm.
- **Shielding**: The mind may "shield" itself from further trauma, like insulation around a wire, but this can result in numbness, detachment, or emotional shutdown—protecting the system at the cost of functionality.

Trauma, like electromagnetic interference, disrupts mental processes, alters perception, and demands emotional recalibration to regain balance.

4. Entanglement

In psychotherapy, it is crucial to differentiate between trauma and an entanglement process. Both can be linked to how past experiences influence current mental and emotional states, although trauma is usually linked to a singular event, while entanglement relates to ongoing, complex relational dynamics.

Although trauma and entanglement are both psychological states, they differ in nature and impact. With regard to electromagnetic processes, trauma can be conceptualised as an electric power process, whereas entanglement is based on magnetic flux.

**Trauma** refers to the emotional or psychological **injury** caused by a distressing event, such as an accident, abuse, or loss. It overwhelms a person's ability to cope and can lead to conditions like PTSD, anxiety, or depression. Trauma often involves a specific event that leaves lasting emotional scars, and healing involves processing and integrating that experience.

**Entanglement**, on the other hand, involves an emotional or psychological **condition** where a person's identity or emotions are deeply intertwined with another person or past experience, making it hard to establish personal boundaries. It often occurs in dysfunctional relationships or when unresolved emotional conflicts persist over time.

A person may remain "entangled" with a past partner or experience, which prevents emotional freedom or healing. Old family traditions can serve an order or become an entanglement if they do not change with the changing environment. Entanglement can be collective when traditions or rituals are performed by the whole nation and are appropriate until an individual moves to a different environment. Transgenerational trauma can cause entanglement in the next generations, and vice versa, just like electromagnetic interactions in a field.

**Trauma** in psychological terms can be compared to a sudden electrical surge or short circuit in an electrical system. Just as trauma is often triggered by a sudden, overwhelming event (like a car accident or natural disaster), a short circuit occurs when an unexpected surge of electricity overwhelms the circuit, causing a disruption or damage. To illustrate, the event of a sudden power surge in an electric circuit causes components to overheat or burn out, much like how a traumatic event can overwhelm a

person's emotional system and cause lasting damage (e.g., PTSD or anxiety). After the surge, the circuit might require repair, and similarly, trauma requires processing and healing.

**Entanglement** in psychological terms can be compared to **inductive coupling** in an electrical circuit. Just as entanglement involves an ongoing, interconnected relationship where the state of one particle influences the other, inductive coupling occurs when the magnetic field of one circuit affects another circuit, even without direct physical contact.

To illustrate, in an electric circuit, two coils placed near each other can induce a current in one coil based on the current flowing in the other coil, even if they are not directly connected. Similarly, in psychological entanglement, a person's ongoing emotional patterns (e.g., feelings of dependency, attachment, or unresolved issues) continue to influence and be "linked" to another person's psychological state, regardless of distance or direct interaction.

**Key Differences between trauma and entanglement:**

- Nature of Impact: Trauma is typically a response to an external event, whereas entanglement involves ongoing internal psychological patterns, often with another person or past experience.
- Cause and Effect: Trauma results from a specific event that overwhelms a person’s ability to cope, while entanglement often arises from repeated patterns of emotional attachment, unresolved conflict, or boundary issues.
- Healing Process: Trauma recovery often involves processing and integrating the memory of a specific event, while disentanglement requires unbinding one’s emotions or ego-state identity from unhealthy relationships or past experiences.

**Memory** is a process of storing information in a conductor or inductor. In the conductor - there are memories which belong to an actual event in the person’s life. Personal traumatic memories can be stored here.

The creation of **entanglement** may occur in the form of **induced memories** as a result of the presence of unprocessed traumatic memories within the magnetic field of the

primary circuit. These memories will inevitably be transferred into the secondary circuit via induction (breeding and parenting) and often can be called transgenerational trauma. Furthermore, memory can be inherited by subsequent generations as an inherited pattern due to the fact that the two "circuits" are composed of the same material, thereby sharing the same gene pool. This type of entanglement is more difficult to release and heal, as there are several factors that come together.

This phenomenon may be described as "quantum entanglement." Nobel winners of 2022 in physics, Alain Aspect, John Clauser and Anton Zeilinger are stated that the phenomenon of quantum entanglement means that aspects of one particle of an entangled pair depend on aspects of the other particle, no matter how far apart they are or what lies between them (Muller, 2022). Entangled quantum states are not separable, regardless of the spatial separation of their components (Zeilinger, 2001)

In psychological terms, **quantum entanglement** can be applied to situations where two people's emotions, behaviours, or psychological conditions and states are deeply interconnected, even across great distances or time, such that the state of one person affects the other in ways that are not easily explained.

### 5. 'Lost Parts' of The Soul

Modern psychotherapy often employs the "lost (split, divided, separated) parts." This term can be used by people who feel something important is missing in their lives and do not feel whole. People do not lose their organs or parts of the physical body, but the sense of loss is strong. There are no parts; there are processes of the field, specifically a split current.

Current splits among the resistors, depending on their values. This process is creating a parallel circuit, with more current flowing through paths of lower resistance. Psychologically, this mirrors how our attention, emotional fulfilment or cognitive resources are divided among multiple tasks. Tasks that require less mental effort (lower resistance) get more attention, while more challenging tasks (higher resistance) receive less. Both in circuits and cognition, resources are dynamically distributed, balancing effort across different demands.

The electrical current represents emotional energy or psychological focus, while the parallel branches represent different aspects of trauma or unresolved emotional experiences. When an individual experiences a traumatic event, their energy (current) is distributed among various unresolved or intertwined feelings, memories, and coping mechanisms. Each "branch" of trauma or emotional distress receives a portion of this energy, but not equally. Some issues (such as more deeply repressed memories or unresolved emotions) may necessitate more energy to address (higher resistance), while others may be less intense or more readily processed (lower resistance), receiving more attention and energy.

The entanglement arises when different aspects of trauma are interconnected, much like branches in a parallel circuit influencing each other. One unresolved issue can draw energy from another, causing a complex web of emotional responses. Just as in a parallel circuit, the total emotional energy available is divided, but the paths don't operate independently—they affect each other, creating a dynamic, often overwhelming system of interrelated pain and coping mechanisms. This way, trauma can lead to an emotional "split," where different parts of the psyche handle different experiences, sometimes causing entanglement and making it difficult to resolve one issue without addressing the others. To illustrate, traumatic experiences and systemic entanglements, which are stuck in a form of parallel circuits and appear as dysfunctional patterns, may lead to procrastination. People feel like they "cannot put themselves together" and focus on tasks. More severe form of dysfunctional patterns of parallel processes is ADHD and OCD.

## 6. Psychotherapy Principles

### 1. Therapeutic Targeting

The most straightforward method for implementing a therapeutic effort in energy-oriented psychotherapy is to focus on the point with the greatest charge and follow the current all the way up. The charge may be observed in the patient's behavioural patterns, verbal expressions, and direct reports of emotional and physical discomfort.

The patient's emotional state (i.e., the emotional charge) provides the therapist with insight into the underlying issue.

The application of therapeutic effort directly on the charge has the potential to enhance the efficacy of psychotherapy and facilitate the personal growth of the patient. This is achieved by working with the inward dynamics, which can be understood from the perspective of Ohm's law.

### *Reducing Resistance (Flexibility)*

Psychological interventions are required when healthy and flexible boundaries, which safeguard and regulate the flow, become rigid constraints and impede free movement. The underlying cause of resistance is amplified when the perceived threat of potential harm intensifies. This can be due to an entanglement or a traumatic experience. In this instance, the objective is not to diminish the resistance but to identify the underlying energy charge and release the associated feelings of fear.

### *Increasing Resistance (Immunity)*

Psychotherapy is also indicated when there is a lack of clarity and confusion regarding personal boundaries. In such instances, an individual may find it challenging to assert a "no" to a harmful environment, to halt unhealthy processes, or to stand up for themselves. Similarly, as in an electrical circuit, there is no resistance without a charge. Personal boundaries are meaningless if the individual does not perceive and value their innate core self-worth, which the boundaries are designed to safeguard. The first step is to identify and connect with one's innate core value, which enables the individual to understand the purpose of their personal boundaries.

### *Increasing Voltage (Power)*

In order to enhance motivation and power, to cultivate a desire to live life to its fullest, it is essential to increase the voltage, thereby facilitating a more profound engagement with the world around us. It is possible to enhance the capacity by addressing the biological core needs, namely exercise, proper nutrition and sleep, or by engaging in

meaningful activities. This can increase the mental "voltage", providing more drive and motivation to engage with the world.

The primary objective is to elevate the oxygen saturation in the blood by employing breathing techniques that stimulate the parasympathetic nervous system. The human breathing system functions as an alternating current (AC) transformer, and the heart exhibits a vortex-like quality, generating a powerful magnetic field that increases the voltage. Thus, engaging in cardiovascular exercise represents a relatively straightforward method of enhancing the voltage. This will result in increased motivation, dynamism, and power, not only in the body but also in the emotions and thoughts.

Similarly, both healthy and unhealthy stimuli, including acupuncture, coffee, contrast showers, and substance intake, have been observed to influence personality dynamics and energy rising on a short-term basis.

*Reducing Voltage (Peace)*

There are a number of ways to release tension and reduce stress. Practices such as meditation, grounding, gratitude, trauma-focused breathing techniques, concentration relaxation or engaging in social support networks can also help to relax and increase positive emotional energy. With relaxation, resistance drops and energy can flow freely.

Achieving a balance where motivation is high enough to stimulate action, but resistance is low enough to allow that action to flow, is key to sustaining mental health.

In essence, applying Ohm's Law to personality dynamics and specifically to mental health enables the understanding of mental energy as a dynamic process governed by the interplay between motivation (voltage), emotional and cognitive flow (current), and resistance (psychological boundaries and barriers).

Just as an electrical circuit requires balance and minimal resistance for optimal operation, a balanced mental state allows for the free flow of thoughts, emotions, and actions, leading to better mental well-being.

## 2. Balanced Conduction and Induction Processes

In electromagnetic interactions, unwanted conduction and induction refer to the unintended flow of energy—whether electric currents or magnetic fields—that can lead to inefficiencies, interference, or disruption. These concepts can serve as a useful model when considering psychological processes in relationships, particularly the dynamics of communication, emotions, and behaviour.

Unwanted conduction in electromagnetic systems occurs when energy flows along unintended paths, often due to a lack of proper insulation or shielding, often leading to inefficiencies, noise, or malfunction. For individuals it may experience "mental noise"—unwanted thoughts, emotions, or distractions that can disrupt mental clarity and focus.

In relationships, this is akin to miscommunication or emotional "leakage." For example, one person may unintentionally express frustration or resentment, leading to misunderstandings or emotional conflict. To limit this, individuals in relationships must build clear boundaries and effective communication strategies. Practising active listening, empathy, setting healthy emotional boundaries, and engaging in open, honest discussions can help "insulate" emotional exchanges, ensuring that only constructive and intentional interactions occur.

Inductive processes in electromagnetism happen when a magnetic field causes unwanted voltages and currents in nearby conductors. In the psychological realm, this can be likened to the influence of external stimuli — such as media, social pressure, or environmental factors — that induce mental states or behaviours.

In relationships, this can be compared to the way external influences—such as societal pressures, past experiences, or third-party opinions—can "induce" emotional reactions or behaviours. For instance, external stressors or advice from friends may inadvertently influence one’s feelings or decisions in a relationship. Establishing a strong sense of individuality and mutual respect in a relationship can help prevent external factors from unduly affecting the dynamics between partners.

The implementation of effective practices may assist in the mitigation of stressors resulting from the phenomenon of unwanted conduction and induction:

*Increase Self-Awareness*

Mindfulness Practices: Engage in mindfulness meditation or exercises to become more aware of your thoughts and feelings. This can help you recognize when you're being influenced by others or by external circumstances.

Journaling: Keep a journal to track your emotions and thoughts. This can help you identify patterns and triggers for unwanted induction.

*Set Boundaries*

Limit Exposure: If certain people or environments consistently induce negative feelings or thoughts, consider setting boundaries or reducing your exposure to them.

Communicate Your Needs: Clearly express your needs to others. This can help prevent unwanted emotional or cognitive influence.

*Develop Emotional Regulation Skills*

Practise Deep Breathing: When you feel overwhelmed by external influences, deep breathing exercises can help calm your mind and body.

Engage in Positive Activities: Distract yourself with activities that you enjoy or that promote positive feelings, such as exercise, hobbies, or spending time with supportive people.

*Cognitive Restructuring*

Challenge Negative Thoughts: When you recognize that you're being influenced negatively, question those thoughts. Ask yourself if they are based on facts or assumptions.

Reframe Situations: Try to reframe how you perceive a situation. Instead of seeing it as negative, look for potential positives or learning opportunities.

*Enhance Social Skills*

Assertiveness Training: Learn and practice assertiveness to express your feelings and opinions confidently. This can help you resist unwanted influence from others.

Selective Engagement: Choose to engage with people who have a positive impact on you, rather than those who induce negativity.

*Seek Professional Support*

Therapy or Counselling: Working with a therapist can provide a person with tools to manage unwanted induction.

Support Groups: Engaging in support groups can provide a safe space to share experiences and gain perspective on unwanted influences.

In both cases, whether the issue is conductive or inductive, the objective is to minimise distractions and disruptions, whether these arise from miscommunications, emotional overflow or external influences. This can be achieved by creating a stable and supportive environment. The key to achieving this is to cultivate self-awareness, set healthy boundaries and develop skills that empower the individual to manage their thoughts and emotions more effectively.

Just as electromagnetic systems rely on design and shielding to control energy flow, healthy relationships require proactive emotional management and effective communication to limit unwanted conductions and inductions, leading to more harmonious connections.

### 3. Increasing Personal Electromagnetic Field

In his books and games made for children, Jesse Schell of Carnegie Mellon University uses the metaphor of the "happy atom", comparing it to a happy person (Schell, 2019*)*. The concept of Happy Atoms is based on the premise that atomic shells are naturally aligned with a full state. Atoms are more stable when their outer shells are filled. People, too, feel more emotionally and mentally balanced when they achieve a sense of fulfilment, purpose, and harmony, reducing inner conflicts and promoting well-being.

Expanding outer shells in atoms, particularly when electrons are excited to higher energy levels, can lead to the creation of a stronger or altered magnetic field. This concept can be metaphorically applied to personal growth. Just as atoms expand their outer shells to achieve higher energy states, individuals expand their potential through learning, experiences, and self-discovery. This expansion can lead to an "amplified"

personal presence or influence, much like how a stronger magnetic field can affect its surroundings. As people grow and evolve, they can impact their life quality, environment, relationships, and communities more profoundly.

The expansion of an electromagnetic field can be conceptualised in psychological terms as a process of personality development, maturity, and stability, which in turn facilitate growth in influence, energy, and emotional resonance. In physics, a magnetic field grows in strength and scope when additional energy or power is applied, such as when a magnet is increased in size or when external forces are introduced. Similarly, in psychology, it can represent the broadening of emotional influence, self-awareness, or social impact.

This expansion occurs as a person develops greater permeability - the emotional intelligence, self-acceptance, and confidence, which increases their ability to attract positive experiences and connect with others. Just as a magnetic field can attract or repel objects, a person’s psychological field can draw in like-minded individuals or situations that resonate with their inner state. By expanding emotional resilience and cultivating a positive mindset, one strengthens their personal magnetism, attracting opportunities, support, and mutual understanding.

Moreover, resolving internal conflicts (which entails working on the electric field) results in a more stable and expansive emotional condition, thereby facilitating deeper engagement with others. Consequently, expanding a personal magnetic field is contingent upon enhancing personal power, emotional clarity, and the capacity for positive connections. Collectively, these factors contribute to the creation of an atmosphere that radiates influence and well-being.

As with a magnetic field, the influence of emotions and personal energy diminishes with distance from the source. In psychological terms, the impact of one's inner state (e.g. confidence, presence) is reduced the further the individual is from their sense of self or emotional grounding.

For instance, an individual's capacity to shape their surroundings (or the perceptions of others) is enhanced when they are aligned with their core values, authentic self, and

emotional centre. Conversely, this influence diminishes when there is a discrepancy between these factors and the individual's actions.

There are a number of ways to enhance one's personal magnetic field strength, which can be directly translated based on the knowledge gained from physics of transformer coils and solenoids:

- **Placing soft iron inside the solenoid**: Adding supportive relationships, environments, or healthy habits can strengthen emotional resilience. Soft iron is highly responsive to magnetic fields, just as a person can benefit greatly from external support.
- **Increasing the number of turns of the coil**: The repetition of positive behaviours, training of skills, reinforcement of beliefs and practice of mindfulness can intensify emotional strength, creating more feedback cycles that enhance mental power.
- **Increasing current flowing through the solenoid**: Increasing motivation, passion, or personal drive (the “current”) intensifies an individual’s psychological influence and resilience.
- **Wrapping the coil tightly around iron**: Engaging deeply with personal values or passions tightens an individual’s emotional strength, making their mental "field" more focused and powerful.

In essence, achieving a high psychological field is done via several practices. This includes cultivating more positive, reinforcing habits or thoughts (increasing the number of turns), amplifying energy through emotional commitment, motivation, and action (increasing current flowing through the coil), becoming more open and adaptable to different experiences, allowing personal growth and understanding (increasing permeability), and focusing energy on fewer, more meaningful goals or relationships, reducing distractions and sharpening emotional focus (decreasing radius).

These analogies demonstrate how psychological strength, like a magnetic field, is shaped by internal energy, focus, external influences, and the ways individuals interact with their environment.

One of the most efficacious methods for restoring weak magnets is re-magnetisation. This process entails subjecting the magnet to a robust external magnetic field to realign its magnetic domains. This evidence substantiates the potency of external influence, the significance of the cultural and social fields in the formation of character and the attainment of an optimal quality of life.

# V. CONCLUSION: THE NEW PSYCHOTHERAPY APPROACH

The personality dynamics, much like the principles governing electromagnetic fields, atoms, and electric circuits, are driven by the flow, exchange, and balance of energy. These straightforward comparisons offer profound insights into the ways in which individuals interact with their environment, form relationships, and evolve personally. An understanding of energy processes in this way allows the internal forces that shape behaviour and experiences to be appreciated in greater depth.

In a manner analogous to the outward extension of an electromagnetic field from charged particles, every individual emits a field — a combination of energy, emotions, and thoughts—that interacts with the world around them. This personal energy is magnetic, attracting specific experiences, people, and opportunities while repelling others. This field's strength and quality are influenced by factors, including the individual's psycho-emo-somatic health and personal beliefs. An individual with a well-aligned and balanced personality will create a stable and harmonious field, which will, in turn, attract positive interactions and experiences. In contrast, an emotional state characterised by turbulence or instability can distort this field, resulting in miscommunications, conflict and the loss of potential opportunities.

At the atomic level, electrons seek to achieve stability by populating their outer shells with the requisite number of electrons. This principle is reflected in human behaviour, whereby individuals seek to achieve a sense of completeness, balance and fulfilment in their lives. When an individual's "outer shell" is perceived to be incomplete, whether in regard to relationships, career, or personal growth, a sense of imbalance is experienced. This results in a desire for growth, learning, and emotional connection, which may be conceptualised as analogous to an atom seeking to fill its shells.

Upon attaining this state of "fullness" in their personal lives, individuals tend to experience a sense of stability and coherence. Similarly, atoms reach their most stable state when their outer electron shells are complete. In a similar manner, individuals experience greater security and a sense of wholeness when their emotional, intellectual,

and social needs are met. However, just as atoms can become unstable when their shells are incomplete, a person may experience feelings of fragmentation or anxiety when important aspects of their lives are missing or unresolved.

In electric circuits, energy flows through conductors, but the occurrence of unwanted conduction or induction can result in inefficiencies and disruption. Similarly, personality dynamics are contingent upon the flow of internal energy, which manifests as thoughts, emotions, and actions. For these elements to function effectively, they must be directed properly. A healthy level of personal energy can be conceptualised as a well-wired circuit, facilitating the unimpeded flow of thoughts, feelings and actions in accordance with one's goals and values.

When circuits become overloaded or misaligned, for example, when an individual experiences internal conflict or overwhelming emotions, energy becomes blocked or diverted, which can result in dysfunction or emotional burnout. Similarly, as electrical engineers utilise insulation and grounding to direct currents, individuals can employ mindfulness, emotional regulation and communication to manage their internal energy flow. The establishment of clear boundaries and an awareness of one's own needs can help to prevent the occurrence of miscommunication, stress, or unproductive behaviour.

The process of atomic expansion, whereby electrons move to higher energy levels, can be seen to mirror the process of personal growth and self-expansion. Similarly, individuals expand their potential through new experiences, challenges, and learning, just as electrons gain energy and expand their orbit. Such expansion has the potential to enhance an individual's personal influence, creativity and capacity for empathy. As individuals venture beyond the boundaries of their comfort zones, their "magnetic field" becomes more powerful, influencing their environment and relationships in more profound ways. Personal growth, much like the excitation of electrons, results in increased personal energy and the potential for positive interaction with the world.

## 1. Perspectives of The New Approach

An examination of energy processes in personality dynamics, when viewed through the lens of electromagnetic fields, atomic shells, and electric circuits, provides a framework for understanding the internal and external forces that shape human behaviour. Similarly, just as atoms seek stability and electrons flow through circuits, individuals endeavour to achieve fulfilment, emotional equilibrium and efficient energy flow in their lives. An understanding of these processes enables individuals to become more aware of their own energy emissions, their interactions with others, and the ways in which they can direct their internal forces to create a life that is harmonious, fulfilling, and energetically aligned.

The examination of personality dynamics through the lens of electromagnetic energy processes can provide a distinctive and illuminating perspective in psychotherapy. The study of electromagnetic energy, which encompasses the flow and interaction of energy, can facilitate an understanding of psychological states, emotional regulation, and interpersonal dynamics. The following section will delineate the ways in which psychotherapy can benefit from this perspective.

### *Energy Flow and Balance*

Similar to the smooth flow of energy essential to the proper functioning of electrical systems, personality dynamics can be viewed as the flow of emotional and cognitive energy within an individual. The presence of blockages or disruptions in this flow, such as unresolved trauma or repressed emotions, can result in psychological distress, which can be conceptualised in a similar manner to the dysfunction observed in electrical systems. Therapy can be an effective means of "clearing" these blockages, thereby restoring balance and promoting emotional well-being.

### *Emotional Resonance and Alignment*

The phenomenon of electromagnetic resonance, whereby systems oscillate in unison, offers a useful parallel to the way in which individuals resonate with their environments or relationships. When an individual's internal emotional state is in alignment with external circumstances, it can result in a state of harmony, analogous to how electromagnetic systems operate most effectively when they are in resonance. It is of the utmost importance to distinguish between two distinct processes of compassion: an electric field process and a magnetic field process. This clarity will influence one's attitude towards the core self and towards life in general and, consequently, the degree of life satisfaction. In a therapeutic context, assisting clients in aligning their internal experiences with their external environment, such as facilitating their understanding of their emotions and values, can contribute to greater psychological coherence and satisfaction.

### *Amplification and Dissonance*

In electrical systems, the exceeding of a safe current limit can result in the phenomenon of overcurrent, which may ultimately lead to system breakdowns. Similarly, extreme emotional responses (such as overwhelming anger or fear) have the potential to disrupt psychological functioning. The concept of viewing these outbursts as an overcurrent provides insight into how an excess of emotional energy can result in burnout, anxiety, or conflict in relationships. Therapy can assist in the management of this phenomenon by facilitating the restoration of emotional regulation.

### *Interpersonal Dynamics*

Just as electromagnetic fields influence one another, individuals' psychological states can interact in relationships. For example, one person's emotional energy can affect the other (e.g. a calm individual can soothe an anxious person, or a tense individual can increase the anxiety in others). The recognition of these dynamics through the lens of

energy enables therapists to guide clients in the identification of their own personality dynamics and the adjustment of their emotional impact on others, thus promoting the development of healthier, more balanced relationships.

*Energy-Oriented Psychotherapy*

Electromagnetic processes are observed in both external and internal systems. This perspective on personality dynamics emphasises the significance of the psycho-emo-somatic unity. Similarly, psychotherapy can be conceptualised as an investigation of the interconnectivity between mental, emotional, and physiological states, analogous to the study of energy flow in circuits. The practice of heartfulness and mindfulness, in conjunction with breathwork and body-focused therapies, can facilitate the restoration of equilibrium within the personal energy system, thereby promoting enhanced emotional well-being. Integrating the concept of electromagnetic energy processes into psychotherapy can deepen understanding of how emotional, cognitive, and relational dynamics function, helping therapists work with clients to restore balance, alignment, and harmony in their psychological lives.

## 2. Benefits of Energy-Oriented Psychotherapy

Using energy-oriented therapy and integrating energy processes with psychological dynamics offers several benefits in the professional context, particularly in psychotherapy and mental health care. The novel paradigm of integrating energy processes with psychological dynamics unveils novel avenues for both theoretical research and practical implementation of these novel understandings. This development renders psychotherapy more precise and lucid, engendering greater transparency for therapists and patients.

### More precise treatment and greater clarity in therapy

Integrating energy processes and terminology into psychological theory and psychotherapeutic practice will allow specialists to identify more precise and core issues

in a patient's psychological and mental state. New approach makes it easier for the therapist and patient to communicate, as the language of energy processes can help to demystify the therapeutic journey.

**More clarity for patients**

Combining energy concepts with psychological frameworks helps patients better understand their internal dynamics, which in turn helps them make sense of their experiences and feelings

**The potential for preventive care**

Using elementary terminology and methodologies from the school program in physics and routine daily activities will simplify and elucidate the intricate nature of personal dynamics. Complex, interconnected psychological processes will become more apparent to the therapist and the patient. When patients understand how their own psycho-emo-somatic system works, they can deal with their emotions better and feel more in control. The identification of issues before they manifest can prevent traumatic experiences and facilitate earlier interventions, as well as a reduction in the severity of psychological and mental disorders.

Including energy processes in psychological practice and applying energy-oriented psychotherapy improves the theoretical and practical sides of therapy, making it more effective, transparent, and personalised for people seeking mental health support.

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# APPENDICES

**Figure 1.** Bodily maps of emotions. Sample handout for identifying subjective sensations related to feelings and emotions for participants in the experiment (Nummenmaa, 2014).

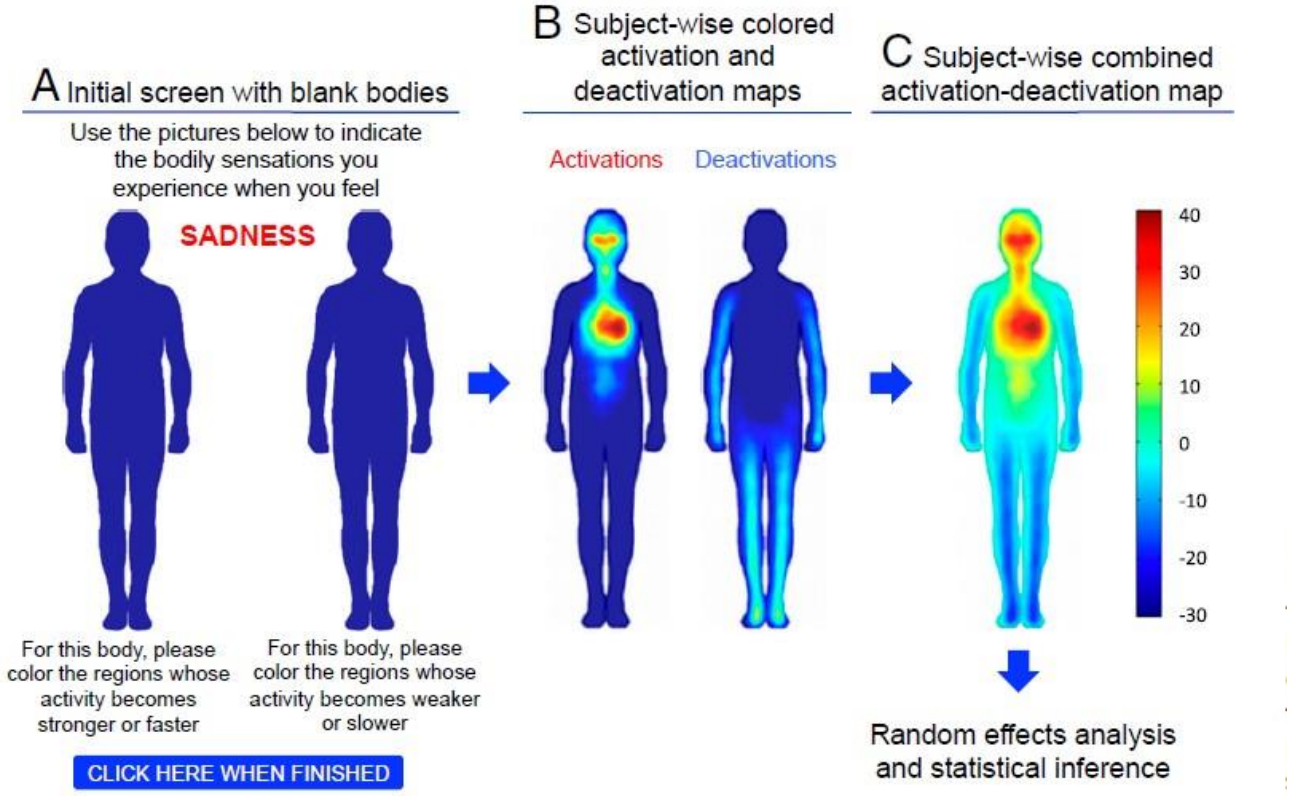


**Figure 2**. The human body as a circuit of resistors and capacitors, connected in series and parallel. (Alrawi, 2010).

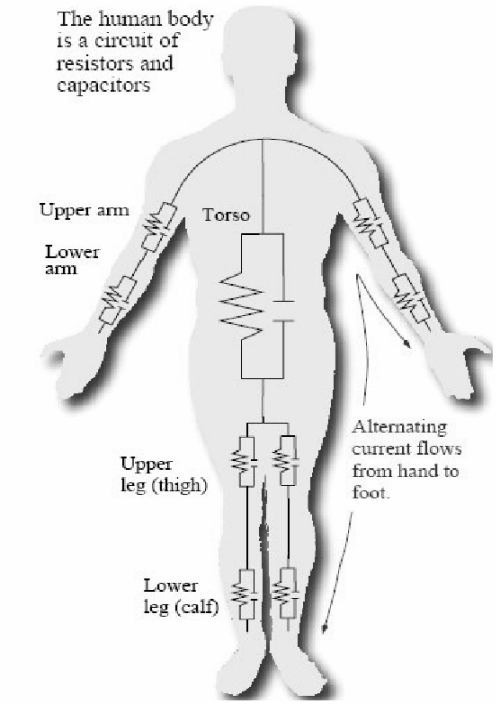



**Figure 3.** Comparing power transformer health with human body health (A.A.: The original syntax and formatting) (Naderian, 2020).

| Transformer Diagnostics Test | Medical Test |
|---|---|
| **DGA**– procedure consists of sampling of oil from the transformer, extracting of gases from the oil in the lab and detect various faults based on the gases | **Blood Test**– a variety of blood tests are available that help to do a preliminary diagnostic. Commonly 10 blood tests are recommended to do on a yearly |

| | |
|---|---|
| concentration. | basis. |
| **Heat Run Test**– is conducted in the lab to reproduce conditions of continuous rated load and overload to monitor the temperature rise occurring during extreme conditions. | **Exercise Stress Test**– Determine how well your heart responds during times when it's working its hardest. |
| **Oil Voltage Breakdown** – Oil sample is taken to test in the lab for the electrical withstand test and check the quality of oil. | **Hemolysis Test**– The sugar-water hemolysis test is a test to detect fragile red blood cells by testing how well they withstand swelling in sugar (sucrose) solution. |
| **Furan**– Measuring byproduct of insulation degradation deposited in oil using oil sampling. | **Urine Protein Test**– is a screening test to look for the presence of proteins. |
| **Degree of Polymerization (DP)**– shows the actual paper degradation but requires opening the transformer to take the paper sample. | **Biopsy**– such as bone marrow examination requires the collection and examination of a sample of bone marrow. This is done to check if the tissue is healthy and blood cell production is normal. |
| **Partial Discharge (PD) Test** –PD is a localized electrical discharge that only partially bridges the insulation of electrical equipment. PD test is conducted by applying a high voltage and measuring electrical PD signals with advanced sensors & data acquisition. | **Electromyography (EMG)**– It is a diagnostic procedure to assess the health of muscles and the nerve cells that control them (motor neurons). An EMG uses electrodes to translate the signals into graphs, sounds or numerical values that are then interpreted by a specialist. |

| | |
|---|---|
| **Dielectric Frequency Response (DFR)** – is an advanced electrical test that measures the dielectric properties of the transformer's insulation as a function of frequency. | **Magnetic Resonance (MR) spectroscopy –** is a noninvasive diagnostic test for measuring biochemical changes in the brain or spine, especially the presence of tumors. |
| **Sweep Frequency Response Analysis (SFRA)-** is an electrical test to evaluate the mechanical integrity of transformer structure including core, windings and clamping structures. | **X-Ray –** is often used to check the integrity of the bones. Soft X-rays have fairly short wavelengths and are placed in the electromagnetic (EM) spectrum. |
| **Acoustic Emission (AE) Test**– is advanced nondestructive testing that used for further investigation to detect faults such as partial discharges (PD). Acoustic sensors are placed around the transformer tank. This is a follow up test if DGA flags for PD. | **Ultrasound Scan-** uses high-frequency sound waves to create images of the inside of the body. Unlike other imaging techniques, ultrasound uses no radiation. |
| **DGA**– procedure consists of sampling of oil from the transformer, extracting of gases from the oil in the lab and detect various faults based on the gases concentration. | **Blood Test**– a variety of blood tests are available that help to do a preliminary diagnostic. Commonly 10 blood tests are recommended to do on a yearly basis. |

**Figure 4.** Model of the Complex adaptive System. Introduction to GSM, Second Edition. (Inchbald, 2017/2023).

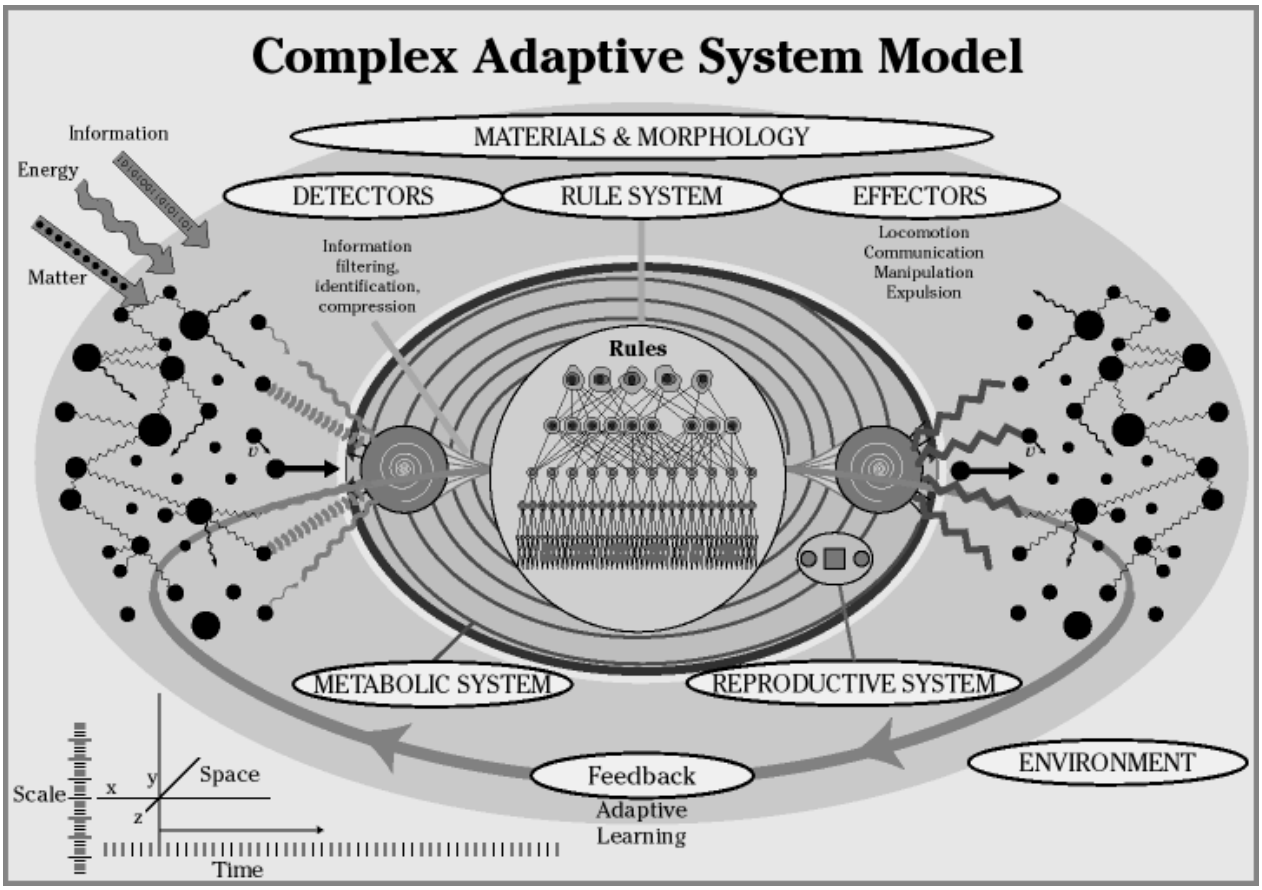


**Figure 5**. Different functions and levels of consciousness, related to different areas of neural network (Young and Pigott, 1999)

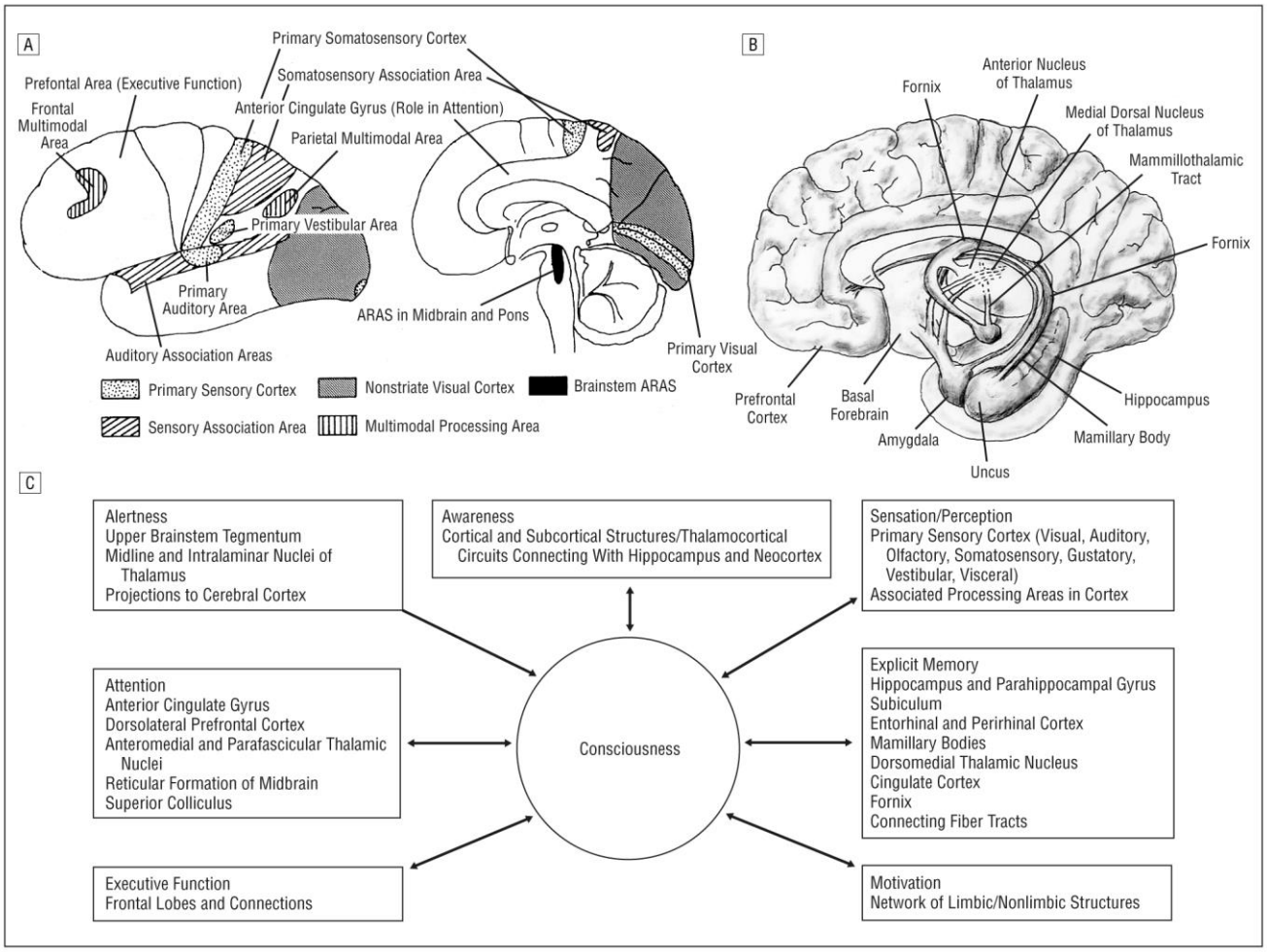
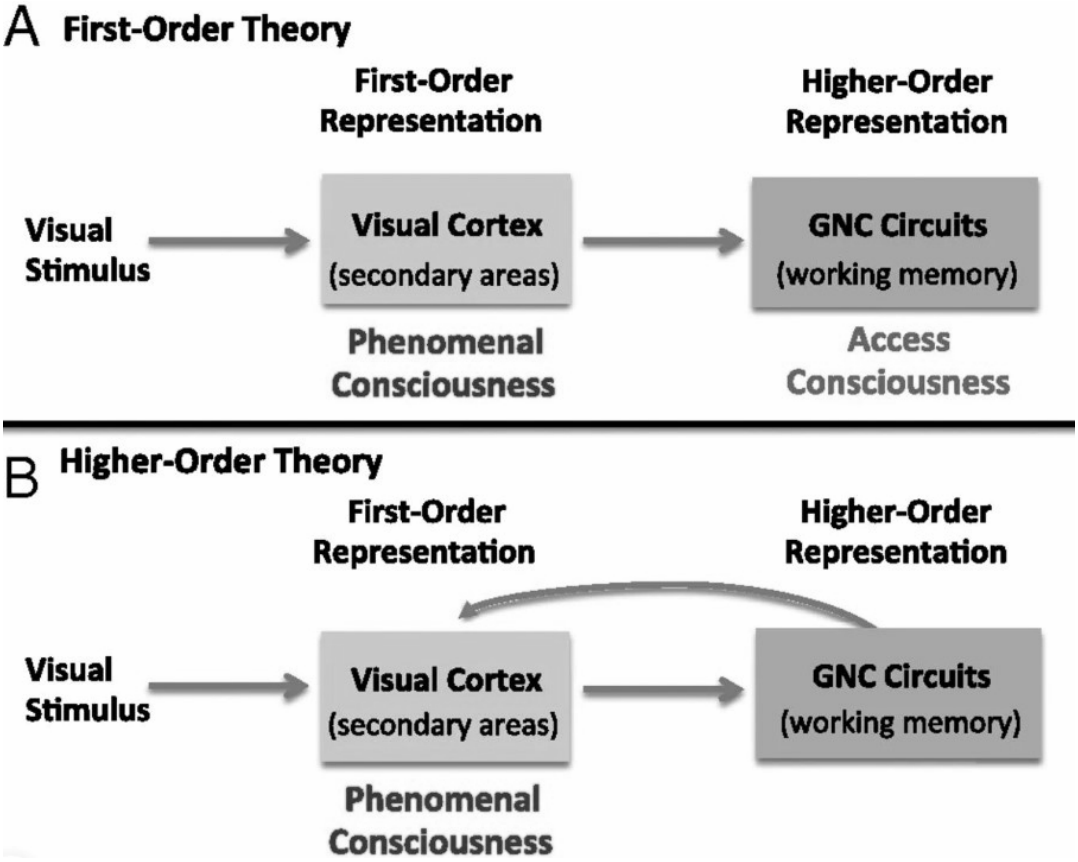


**Figure 6**. Comparison of the first-order and the higher-order theories of consciousness. In the former, consciousness solely depends on sensory representations of stimuli (A). However, the latter depends on the representation of lower-order information by circuits that underlie cognitive functions, such as working memory (B) (LeDoux, 2017).



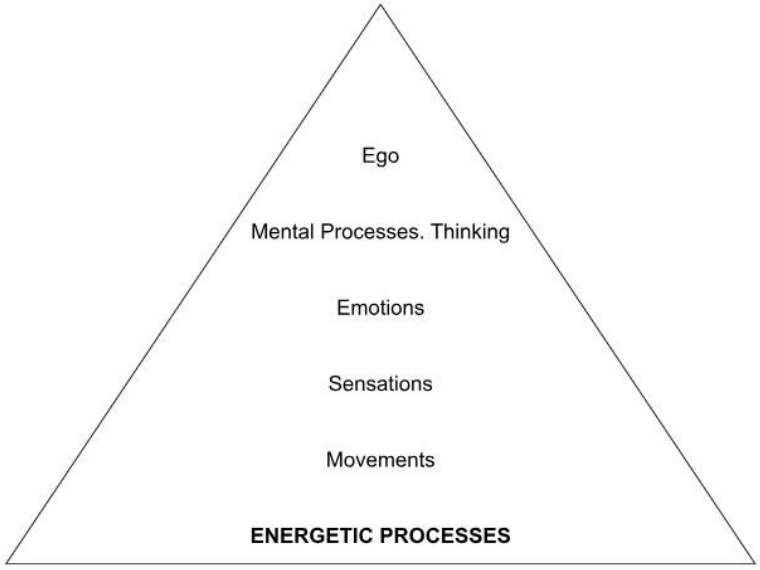
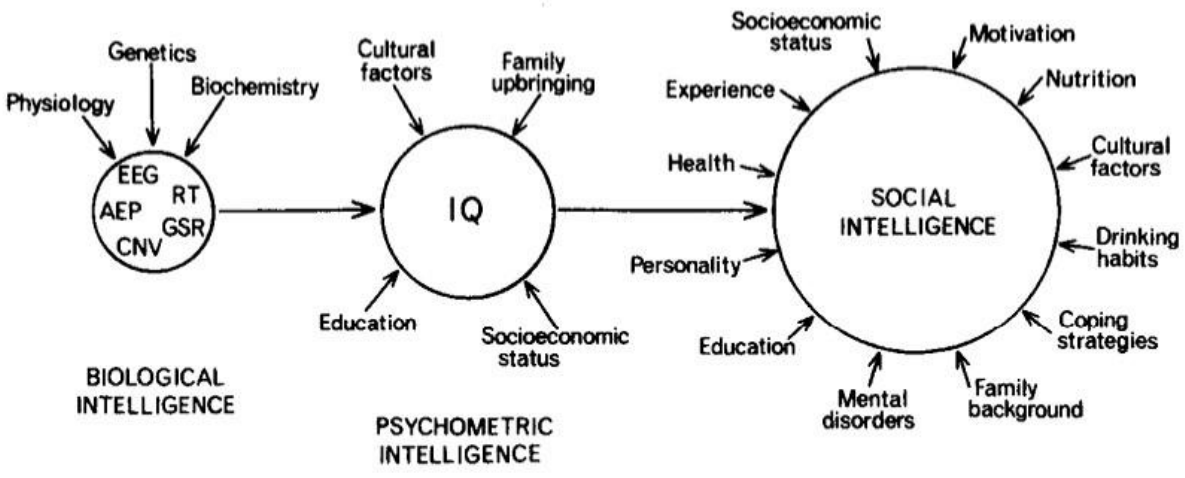



**Figure 7.** The Personality Hierarchy Pyramid in Bioenergetics Analysis (Lowen, 1963)

**Figure 8.** Concept of personal intelligence: biological intelligence, psychometric intelligence, and social (or practical) intelligence (Eysenck, 1988).

**Figure 9**. Hierarchically inclusive levels of acquaintanceship (Dunbar, 2010).



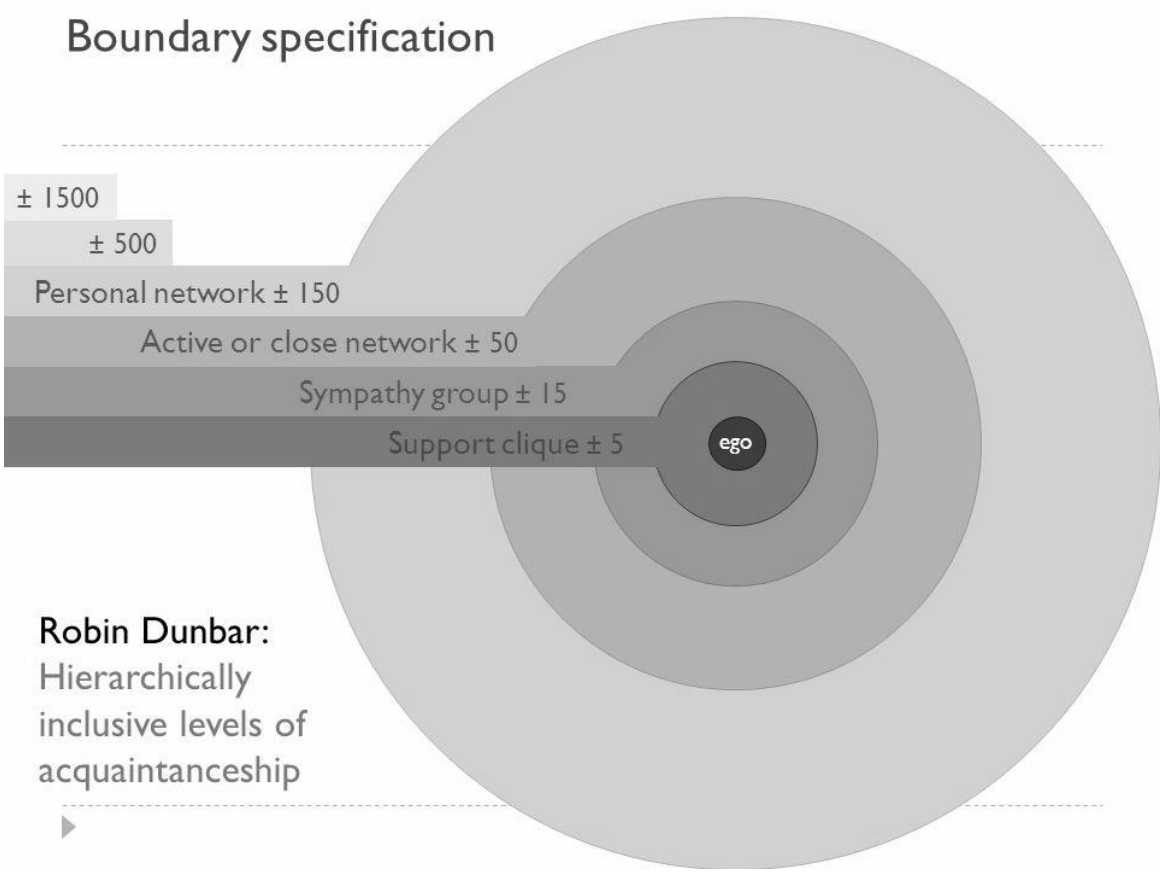
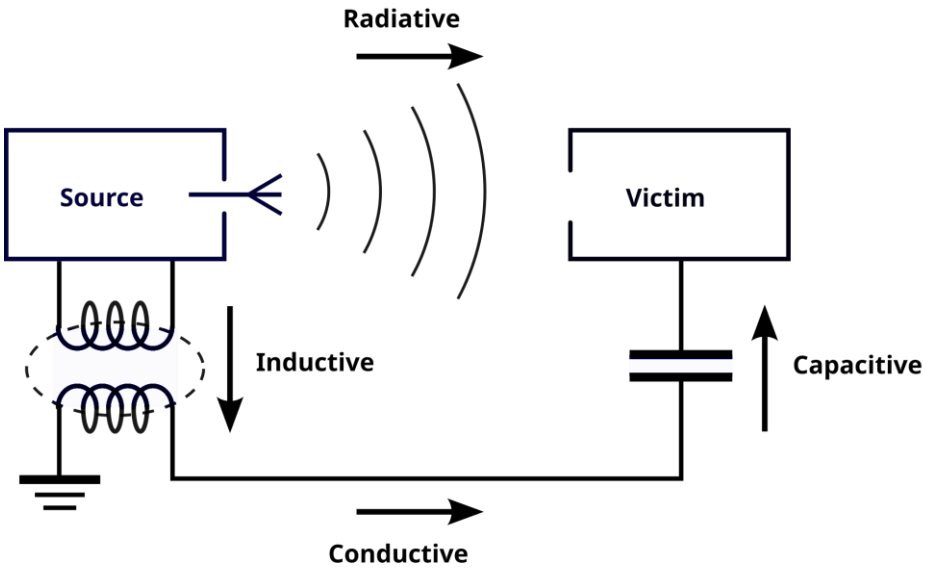



**Figure 10.** The four electromagnetic interference (EMI) coupling modes (Inchbald, 2017/2023)




## APPRECIATION

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