REFLECTIONS ON ENERGY, INFORMATION, AND FIELDS FROM PSYCHOANALYTIC AND SYSTEMS THEORETICAL PERSPECTIVES

Abstract ID: 3961 Name: Pamela M. Buckle, Ph.D. Author's Affiliation: Adelphi University Contact Information: buckle@adelphi.edu

Abstract

The story of energy as a focus of psychoanalysis began with Freud, whose conceptualization was further developed by C.G. Jung. The human psyche, as Jung came to understand it, is enlivened by energy that draws people toward people, objects, ideas, and activities, forming and re-forming us through the ways it flows and the contents it carries.

Two levels of human system are addressed here. This article will examine how psychological energy forms the experience of individuals. In analytical psychology, psychological energy is observed to carry information about both conscious and unconscious states of a person's psyche as it engages with itself and its environment. This article will also examine how psychological energy forms the experience of groups. It acts as a force that travels through space and time, creating specific, qualitatively linked human behaviors, tensions, constraints, frustrations, and potentials that Jung and others conceive of as psychological fields.

The concept of energy as a property of psychological systems makes useful contributions to our understanding of the human experience. Though rarely conscious, psychological energy nonetheless impacts the phenomenological experience of human individuals and groups, who cope with it in a variety of ways (some generative and some destructive). Psychological energy slows, stops, and speeds up, each having identifiable impact on the personal and collective psyche. Finally, an important thesis in psychoanalytic thought is that the means through which energy moves through and within human systems can change, thus psychic energy plays an important role in psychological transformation.

Key Words

psychoanalytic theory, energy, information, field theory

1 | Introduction

The story of libido as a focus of psychoanalysis began with Sigmund Freud's introduction of the term in his *Three Essays on the Theory of Sexuality* in 1905. C.G. Jung extended Freud's understanding of libido, conceiving it as an active force of energy that can "communicate itself to *any* field of activity whatsoever, be it power, hunger, hatred, sexuality, or religion" (Jung, 1905/1967 – my emphasis). The human psyche, as Jungians came to understand it, is enlivened by energy that works to draw us toward people, objects, ideas, images, and activities (Edinger, 1994), forming and re-forming us through the ways it flows and the contents it carries. Jung focused on such energy in two of the nine essays that comprise fifth volume on *Symbols of Transformation: An Analysis of the Prelude to a Case of Schizophrenia* in his *Collected Works*, and he made reference to libido – which he also called 'psychological energy' – in other volumes as well.

2 | Libido as Information

It is challenging to perceive manifestations of psychological energy as usable information. The stakes are high if we do not: to fail to discern this information is to risk psychological energy drawing people into counterproductive (even dangerous, psychotic) territories. While sounding this urgent warning, Jung also sympathized about how easy it is to overlook directions into which energy can draw us (CW8¶165). We can't see such information directly (M. Krasnow, personal communication) – in fact, in complex systems important information is often carried by weak signals (Ahlqvist and Uotila, 2020; Ho, M-W, 1998), requiring us to develop the sensory capacity to detect it so we can actually use it. To translate an abstract notion like 'psychological energy' into usable information, it can be helpful to examine what information actually is.

When we are in the presence of information, we're in a place where what we don't know meets what can be known. The *Oxford Dictionary* tells us that information communicates "instructive knowledge" – by encoding that knowledge so it can be transmitted and later interpreted (Webler, 2022). Information clearly has value then; it gets encrypted and stored to keep it safe. Wherein lies that value?: in its ability to instruct us *about patterns* (Casagrande, 1999).

Throughout his career, Jung made exhaustive effort to demonstrate how information can form and transform patterns within the human psyche. Patterns, psychologists stress, are vital. Through them humans infer attributes about people and situations, enabling us to formulate ways of relating to those people and situations. Importantly though, a great deal of the information that informs us gets perceived by us without our knowing (Kawakami and Yoshida, 2015). There is no need for us to consciously appreciate what information we are reacting to, what patterns are subliminally informing us (Merikle, 1992). Despite these times of information technology, and people's focus on transforming, transmitting, and interpreting vast amounts of information, it is naïve to presume that most information is consciously willed and consciously received. A psychoanalytic understanding says otherwise. We are shaped, to a great extent, by information we do not notice; information we do not notice is nonetheless very pertinent to us. The German-American psychologist Kurt Lewin gives a simple example:

There is no question... that when a person is in a familiar room, the part of the wall which is behind him belongs to his momentary environment. Furthermore, the fact that such and such other rooms are near this one, that the house stands in a lonely settlement by the sea or on a busy thoroughfare of a great city, can be an essential part of the psychological situation. (1936, pp. 18-19)

A central tenet of psychoanalytic theory is that much of the information operating within a human originates from autonomous sources – ones we do not consciously will; information need not arise from consciously-controlled intentions. This accounts for its inscrutability to those of us interested in understanding human behaviour.

One could argue that considering 'information' to exist within the human psyche is an exercise in abstraction with little pragmatic importance. It is not. Originally, 'information' was a word representing that which "gave form," that which "shaped;" and through this shaping, information was that which could

"instruct" (Partridge, 2009, p. 229). With this understanding, we begin to move into more personal terrain. Information is more than something we might choose to think about. It does no less than *shape* us, *form* us. Here new questions arise. What forming is being done to us? Into what forms are we being shaped? Through us, what forms are arising? Answers to such questions are significant, because here we arrive at a recognition that *information does things to us* – affects what we think and how we act – whether we discern it or not.

Information guides the organization and behaviour of all living organisms (Polanyi, 1968), humans included. Information guides the ways that cognition and behaviour is organized in individuals, and groups as well. We experience being formed subjectively; and we also experience it collectively. We can frame the bewildered question of psychoanalytic patients – "What's being done to me?" – as emergent consciousness about being in-formed: "Why am I being shaped this way?" And along with "What's being done to me?" we can ask, "What's being done to us? What is shaping us this way?"

It can be said that how persons think and act *belongs to the system in which they are operating*. From this perspective, our cognition and behaviour are not ours alone, but rather are integrally tied to the ways a particular system is shaped, the particular forms in which particular psychological energies are being expressed. Our thoughts and actions are "mobilization of processes which are inherent to *the... system itself*, and belong to *its* proper cognitive domain" (Jantsch, 1980, p.196 – my emphasis). A system "uses" its constituent parts as "tools" for its self-expression (Lundholm, 1934, p. 101). The psychological energy governing interpersonal behaviour has a unique signature, discernable in the particular ways that people interact.

Perceiving information in terms of the shape or form imposed on individuals and groups could obscure the fact that information is not static. It gets transmitted. It moves. While systems theorists (i.e. Miller, 1978) differentiate between the influence of information versus energy in living systems, Jung described the information he discerned in people's lives as "psychological energy". Just as information moves, so too does energy. Jung was emphatic about the energy concept in his psychology, writing, "We are compelled to regard every striving and every desire, including hunger and instinct however understood, as equally a phenomenon of energy" (1905/1967, p. 137). Lewin, with his pioneering interest in organizational and applied psychology, was also emphatic, calling such force "as real as any other kind of dynamical construct in psychology, and certainly as real as a physical force" (1938, p. 87). Indeed, in his writings, Jung illustrated how psychological energy can accelerate, slow, and change directions in how it affects behaviour and consciousness (1916/1978). From this perspective, the practice of psychoanalysis is to monitor and interpret the ways that patients adapt (or neurotically maladapt [Jung, 1905/1967]) to the ebb and flow of energy permeating their environment, and themselves. Such continual adaptations, psychoanalytically speaking, are indications of psychological energy at work. 'Work,' in fact, is what the word 'energy' originally meant (Partridge, 2009, p. 182). To observe psychological energy is to observe how a particular psyche works, the way its work is directing itself – importing strength and inspiration for its work from its environment (Jantsch, 1980), attributing value or importance to particular objects, and also how energy gets extracted from us (i.e. how our psychological energy gets depotentiated). Being formed and reformed, shaped and reshaped, is what the dynamic of psychological energy is all about.

3 | Psychological Energy Fields

Where and when psychological energy moves creates a metaphorical "location" that one is *in*, a particular kind of circumstance, with a particular psychological atmosphere (Lewin, 1951). This way of understanding the situatedness of moving energies is termed a "field."

The concept of fields originated in the 1920s (Polanyi, 1968) as a way to understand self-organizing, self-regulating phenomena in biology; it since has been extended, becoming a way to understand social phenomena characterized by interconnected information, energy, and matter. In psychology, we can understand a field as a "functional entity," made up of a "distribution of forces in space [that create] a special structure... a definite place within the totality of possible patterns" (Lewin et

al., 1944, pp. 12-13 – my emphasis). When we detect specific, qualitatively linked behaviors, tensions, constraints, frustrations, and potentials, it can be said that we are perceiving a psychological field.

The notion of life unfolding in subtle yet potent fields of energy is a compelling way of understanding the human experience. We, each of us, and all of us together, live in "life spaces" (Lewin, 1936) that we do not design, governed by powerful energies that form us, act on us, and carry us in ways revealing depths of connection with people and forces we scarcely understand. There are moments when we see how "there arises a sense of the sacredness of a creative process joining all things together in a never-ending dance of co-dependent arising, in which we participate" (Goodwin, 1999, p. 34).

Moments when we perceive a field of energy that we are in can feel emotionally appealing — mystical and awe-inspiring. It can also feel uncomfortably intimate to sense how we are being acted on, how we choicelessly *belong* to forces induced by the situation we're in and the people we're with (Lewin *et al.*, 1944). A field of psychological energy can engender a feeling of closeness that is profoundly comforting. The psychological energy circulating within a field can just as readily give rise to "fear situations" wherein the field's energies determine the "cognitive structure" of those in it in frightening ways (Lewin *et al.*, 1944, p. 298).

Field theory posits that fields are confluences of multiple energies: "always a group of forces are acting on the person. Therefore any kind of coordination between force and observable events can link these events only to the resultant of forces existing at that time" (Lewin, 1936, p. 84 – my emphasis). This is consistent with a transition from Aristotelian to Galilean thinking that requires us to assume that finding 'a cause' for an event is insufficient. Rather, things occur because of the relationship between multiple facts and the ways they interact. Psychological field theory is emphatic on this point: "The behaviour of an individual is determined by 'a multitude of coexisting facts,' the life space containing the person, and his psychological environment" (Lewin, 1936, p. 2). In clinical psychology, we work to perceive the particular set of actions, assumptions, occurrences, moods, images, options, urgencies, barriers, etc. that are acting in coordinated ways on a person's life space at a given point in time.

Thus, from a field perspective, we can conceive of people's lives as a dynamic system of integrated libidinal forces, psychological energies that collectively cause the unique human experience each of us has. More specifically, relationships between multiple centres of psychological energy:

- self and others
- conscious and unconscious
- and (to followers of Jung) personal unconscious and collective unconscious.

Multiple psychological energies interact to produce the challenges we have, the psychological risks we face, and the possibilities available (or unavailable) to each of us.

A field-informed perspective on Jung's theory of psychological energy would emphasize the qualities of relationship between (for example) a woman's ego and *animus* – are they collaborators or adversaries? Are her *personas* amplifying or thwarting the work of the Self? Is her *animus* accessing the anima of men in ways conducive to her life? etc. Field-informed energy-focused clinical treatment could look like collaborative work to help a patient integrate such disparate psychological energies in ways that effectively adapt to her internal and external life realities. Important in this, of course, is the fact that there are two main centres of volitional activity in a person's psyche. The ego we can direct (more or less) with willful attention; the Self expresses its volition through channels entirely autonomous to ego (Edinger, 1994). We are comprised of independently-operating energies that operate in sometimes unified, sometimes contentious ways (Lewin, 1936). The unfolding life experience – from a psychoanalytic perspective – is the experience of operating according to our conscious will, alongside "a force of will other than [our] own" (DeRivera, 1976, pp. 508-9).

An important issue in field theory must be considered: correlation versus causation. For example, we might examine a case Jung described, where a young woman on a cruise ship overheard one of the sailors singing a love song to himself as he worked alone late one evening. The woman felt compelled to write a poem about love herself later that night. She did so, then awakening the next morning ill, and greatly fatigued for several days thereafter (Jung, 1967 p. 451). A temptation could be to attribute causality to these three incidents: this woman heard the man's song, which made her write her

own poem, which *caused* her illness. A more modest interpretation is to say that she had an encounter of an eros-activated man *that coincided with* energies she experienced as stimulating (she wrote a poem) and also energies she experienced as physically depleting (she became sick).

Jung himself argued that these were causally related. But it is potent to consider them as a cluster of correlated events that somehow 'belonged together' (i.e. energies belonging to a single field, that emerged at the same time in the life space of this particular woman at a particular point in time). Such a formulation does not bring us to converge on a singular conclusion about what was happening in the woman's psyche; rather it opens divergent lines of inquiry we might carefully consider: certainly yes, in what ways do romantic-feeling encounters coincide with creative output (writing poetry) for her? But also, in what ways does her creativity get inspired by touching events in her surroundings? Given that she was eavesdropping on the sailor, in what ways is she overcome (energetically depleted) at the prospect of a man's privately expressed feelings about love? In what ways does a man's views of love stimulate her reflections on her own views of love? In what ways do they enable her to access her own private poetic thoughts? Given that he did not realize she was there, in what ways does a man she experiences but who doesn't experience her coincide with an increase and/or decrease in her physical energies? In what ways does her physical stamina oscillate between high and low energies? Are those oscillations affecting (and affected by) her personal artistic expression? etc.

Field theory insists that we should not be quick to identify a single energetic force as a cause for a person's internal state. Jung's own understanding of psychological energy was (more or less) unidirectional in its effects:

Overhearing the sailor \rightarrow caused \rightarrow her poetic outpouring \rightarrow which caused \rightarrow woman to get sick

Contrast this perspective with a field-theory interpretation:

Events noticed "with," "alongside," or "operating together" on a person open more imaginative pathways to psychological work than factors "caused by" one another. It also reflects a more appropriately humble understanding of the complex workings of energetic fields.

This case also illustrates the field theory perspective that self and environment are equally important in the psychological life space of a person (Lewin, 1936). Present-day writers caution against overlooking either:

It is necessary to recognize that experience cannot be reduced either to what is generally regarded as 'out there,' the stimulus as the cause of the experience; or to the embodied condition of the experiencing subject. The experience arises from the whole process, which includes outer circumstance and its inner resonances. (Goodwin, 1999, p. 26)

In this case, we do not know how the sailor may have been affected by this woman, but field theory suggests that some kind of unconscious mutual impact was likely. Psychological energies are experienced interpersonally, exchanged among us, and co-regulated by people inhabiting the same field. Recalling the uncomfortable intimacy I mentioned earlier, Jung describes how energy is transferred between people in a 'call and response' way:

A transference is answered by a counter-transference... [both are] compulsive, a forcible tie, because [they] create a 'mystical' or unconscious identity with the object. Against these unconscious ties there are always resistances – conscious resistances if the subject's attitude allows him to give his [energy] only voluntarily, but not to have it coaxed or forced out of him; unconscious resistances if he likes nothing better than having his [energy] taken away from him. (1916/1978, p. 273)

'Call and response' is one way to describe the exchanges of psychological energy that occur among people. 'Give and take' is another: "There is a strong tendency for the potency of one situation to increase and... for the potency of the other situation to decrease" (Lewin *et al.*, 1944, p. 296); as one situation is given more attention, attention available for other situations is taken away. Fields are comprised of energy that mingles and comingles among participants, forming life experiences through its ebb and flow.

And yet, ideas such as ebb-flow, call-answer, and give-take all suggest that energy is relatively distinct, and this is not always the case. The concept of psychological energy is, perhaps, the reason why we speak of boundaries that 'blur.' Theorists have used a variety of metaphors to describe this. Lewin spoke of "overlapping force fields" (Lewin *et al.*, 1944, p. 13). Complexity scientist Brian Goodwin has written of ways in which people become "entangled" with others. Jung's writings about the *coniunctio* archetype reflect ways that psychological energies similarly become inexorably "fused" (M. Krasnow, personal communication). Energy causes people to cohere in unconscious ways. "An outer object can exert... a direct psychological influence on us," having "a direct hand in the [psychic] mechanism" by which we operate ourselves even without our realizing it (Jung, 1916/1978, p. 274). A body of literature on the phenomenon of 'entrainment' refers to this.

Organizational theorists (e.g., Ancona & Chong, 1996; Ancona et al., 2001; and McGrath & Rotchford, 1983) describe entrainment as the way that disparate organizational actors and activities get pulled into synchronization with one another. Entrainment involves the "capturing and modification of human activity" (McGrath & Rotchford, 1983, p.78), both consciously and inexorably. "Deliberately or by accident," [psychological] energies become activated in and around" us (Mark & Pearson, 2001, p.33). Rather than 'my' energy as distinct from 'yours,' entrainment draws attention to ways that overarching energy patterns blur the apparent boundaries that separate people.

Taken together, the concept of fields gives us the perspective of human life as a dynamic experience of more than one energy emerging from various events and points in time, interacting with one another, acting on one another, exchanging places with one another, becoming entangled, visible only by their effects on events in our lives and the ways we find ourselves feeling, thinking, and acting. A final consideration about fields here is this: Where people and meaning and histories and psyches cohere, we must acknowledge the limits this puts on free will. Insofar as fields are unified psychological structures, they are complexly coordinated entities that enable certain ways of functioning and limit others (for example, an elevator is a structure that obliges our wish to travel up and down, but will generally refuse our fantasy of traveling sideways!). We must consider the relatively limited potency of the human ego amidst the energy centres that operate in intricate tension-systems (conscious-unconscious, self-other individual-collective, past-future-present, etc.). Tension-systems, while inherently dynamic, can create solid structures (consider the many sturdy bridges that span the waters surrounding Manhattan). Psychologically, tension is a challenge.

4 | Bearing Psychological Energy

When there is an increase in the amount of energy we experience, our psychological limits are put under increased strain (DeRivera, 1976). As the walls of a cell require strength to withstand the pressure of forces moving within and around it, so too does the force of psychological energy demand psychological strength of us. As the currents of psychological energy swell and subside, so too the bearing of psychological energy in human life is a fluid situation.

Psychological energy expresses itself in multiple intensities. And consciously or unconsciously, a part of us is continually monitoring how it is moving within and around us. Russian physiologist Ivan Pavlov termed this our "orienting response," the way in which we physically and psychologically position ourselves with respect to our surroundings (Abbass, 2015; Gibson, 1982). Depending on what is happening in those surroundings, our degree of active engagement in the external world will vary (DeRivera, 1976). The American psychologist Edward Edinger wrote of a spectrum of libidinal responses that get called forth from us: "attention, interest, desire, attachment, enthusiasm, compulsion,

and worship" (1994, p. 20). Each is a manifestation of how intense is the energy flow a person is experiencing at a particular moment, given the direction to which that person's focus is oriented.

While Edinger wrote about directing libido *toward* the environment, others have written about ways that people's libidinal flow can move *away* from it. A person's psychological energy can lessen "to the point of complete passivity... a state [described as] drowsing" (DeRivera, 1976, p. 375). Withdrawal of psychological energy can occur with considerable force, as when we feel repulsed by something. In psychology, intensity is a significant factor: "a good deal of tension or a strong withdrawal is an indication of a powerful attractive force, for otherwise the person would not come so close to a strong negative force" (DeRivera, 1976, pp. 427-428). When forces of attraction and repulsion (or consciousness and unconsciousness) are of equal strength, a person is held in place – comfortably or otherwise. It is when the strength of psychological energy in opposing directions is unequal, when for example the energetic force of approach exceeds the energetic forces favouring withdrawal, then a person will move in the direction of change. Said differently, what psychological change often demands is no less than a sort of "restructurization" or widening of energy pathways so to expand the force of energy they can contain (Lewin, 1951, p. 268). In part, bearing the intensity of psychological energy requires us to find ways of restructuring the present-moment tension systems of which we are comprised.

Understandably, the fluctuating strains put upon on our psychological systems leave us feeling steady at some times and instable at others. Jung believed that energy flow is a function of our attitudes toward a given issue in our lives: at times, such stances serve us well and energy flows smoothly; and at times such stances do not serve us — as in his comment about a person whose "stoppage of libido was due to the failure of the conscious attitude" (Jung, 1928/1978, p. 35). The stability an attitude achieves for us can, over time, exact a price in the form of the amount of psychological energy left available to us. Over time, attitudes can become stagnant.

Psychological systems – our particular constellations of attitudes, beliefs, values, etc. – exist in states of relative stability, until they pass an "energy threshold" (Gibson, 1982) or "instability threshold," (Jantsch, 1980) wherein the structural tensions that held us in one state break down. In complex systems, human or otherwise, "the transition from one regime to the other is not continuous" (Jantsch, 1980, p. 57); it happens decisively. When discontinuities occur, (either painlessly or dramatically), we shift between feelings of comfort and discomfort. Consciously, or more often unconsciously, our psyches are monitoring how stable or unstable are our circumstances, and generating responses to that information.

Subjectively, instability tends to feel unsettling, gives the sense that our life structures (or internal structures) may not be holding us well. Such feelings are commonly expressed by patients in therapy. However, contrary to what most patients think, stability can be far worse – at least, the longer it continues. Physics tells us that equilibrium happens when driving and restraining forces are equal (Planck 1928, cited in Lewin, 1938). However steadying this may sound, energy needs movement; it must travel *from* somewhere *to* somewhere else. When psychological energy is not moving, we will experience increasing pressure that is increasingly difficult to bear. In stasis, we begin to experience symptoms such as loss of vitality or reactivity. Remaining in a stable state, which we are understanding as a state wherein psychological energy operates with minimal movement, can be viewed as a state of sustained psychological resistance to beliefs, people, or events that a person opposes – an obstinacy that means energetic standstill is ongoing (Lewin, 1938). Restlessness can ensue as the emotional tension of such a situation increases (Lewin, 1951).

Crucial to an understanding of human psychology is the understanding of how people operate when psychological energy becomes uncomfortably intense. When intensity of energy mounts, a person titrates – i.e. assesses how potent is the force they are facing and then takes action to dilute that potency – an aversive response strategy. Response strategies that people can use to minimize their experience of psychological energy are many. The psychologist Anna Freud (Sigmund's daughter) catalogued the classical psychological defenses – ways a person attempts to remain unconscious of intense psychological energy. One of these is psychological *projection* – literally, 'throwing forth' – a vivid example of how we seek to bear uncomfortable energy by throwing our discomfort onto someone else. In projection, we extend our energy interpersonally, relocating energies that rightfully belong to us into someone else,

perceiving faults in another person that are actually our own. From a perspective of psychological energy, people use projection "to alleviate life" (aras.org): considering how commonly projection gets used, it is remarkable to consider how much life people are attempting to alleviate.

Exteriorization of energy – using projection as a strategy for bearing intense energy – creates difficulties. While it is understandable that we try to bear psychological energy by avoiding it, marginalizing energy that belongs in us worsens its effects. Conversely, the subjective tension it creates can lessen significantly when we acknowledge that it is our own (Lewin, 1951). No matter our psychological strategies, evasion does not free us from the intensity of psychological energy. While it may give the illusion of sustainable stability, it merely delays our growth (Jantsch, 1980). "Evasion... is no real road to freedom" (DeRivera, 1976, p. 408).

5 | Concluding Thoughts

We can now understand psychological energy as a form of dynamic information about a person or group

- that is an energetic phenomenon (exerting force),
- that we can conceive spatially (as a field),
- that moves (through and around us), and
- that can be intense (and intensely difficult to bear).

Ideally, we sense many of the ever-shifting forces within and around us so that we can make intentional decisions about how to position ourselves relative to those forces. Such awareness is key to human health, which is "not a specific state, but [rather] is the intensity with which an aware organism copes with its environment" (Illich, 1976).

We experience psychological energy intrapsychically, to be sure. And when we experience it interpersonally, psychological energy gathers disparate people, ideas, and things into a feeling of participating in something together. Such feeling of belongingness does not mean we experience it as harmonious. Every living system has structural fallibilities, has to cope with sometimes-violent vicissitudes of energy flows that are, nonetheless, needed to unfold its life (Jantsch, 1980). Those energy flows at times amplify each other and at times oppose each other, at times act as driving forces and at times restraining forces (Lewin *et al.*, 1944). While for many the notion that 'psychological energy' moves within us seems unreal or inconsequential, Jung was convinced that it was "just as pitiless and just as inexorable as the outer world, and just as useful and helpful, provided one knows how to circumvent its dangers and discover its hidden treasures" (Jung, 1916/1967, p. 156).

6 | References

- Abbass, A. (2015). *Reaching through resistance: Advanced psychotherapy techniques.* Kansas City, MO: Seven Leaves Press.
- Ahlqvist, T. & Uotila, T. (2020) Contextualizing weak signals: Toward a relational theory of futures knowledge. *Futures*, 119(102543).
- Ancona, D., & Chong, C.-L. (1996). Entrainment: Pace, cycle, and rhythm in organizational behaviour. *Research in Organizational Behaviour*, *18*, 251-284.
- Ancona, D., Goodman, P., Lawrence, B., & Tushman, M. (2001). Time: A new research lens. *Academy of Management Review*, 26(4), 645-663.
- Casagrande, D. (1999). Information as verb: Re-conceptualizing information for cognitive and ecological models. *Journal of Ecological Anthropology*, *3*(1), 4-13.
- De Rivera, J. (1976). Field theory as human-science: Contributions of Lewin's Berlin group. New York, NY: Gardner Press Inc.
- Edinger, E. (1994). *Transformation of libido: A seminar on Jung's Symbols of Transformation*. Los Angeles, CA: The C.G. Jung Bookstore.
- Gibson, J. (1982). The uses of proprioception and the detection of propriospecific information. In E. Reed & R. Jones (Eds.), *Reasons for realism: Selected essays of James J. Gibson* (pp.164-170). Hillsdale NJ: Lawrence Erlbaum Associates.

- Goodwin, B. (1999). From control to participation via a science of qualities. *ReVision*, 21(4), 26–35.
- Ho, M-W. (1998). Organism and psyche in a participatory universe. In D. Loye (Ed.), *The evolutionary outrider: The impact of the human agent on evolution, essays in honour of Ervin Laszlo* (pp. 49-65). Westport, CT: Praeger.
- Illich, I. (1976). *Medical nemesis: The expropriation of health*. New York, NY: Pantheon Books Jantsch, E. (1980). *The self-organizing universe: Scientific and human implications of the emerging paradigm of evolution*. Toronto ON: Pergamon Press.
- Jung, C. (1967). The concept of libido (R.F.C. Hull, Trans.). In H. Read et al. (Series Eds.), *The collected works of C.G. Jung* (Vol. 5, pp. 132-141). Princeton, NJ: Princeton University Press. (Original work published 1905)
- Jung, C. (1967). Appendix: The Miller fantasies (R.F.C. Hull, Trans.). In H. Read et al. (Series Eds.), *The collected works of C.G. Jung* (Vol. 5, pp. 445-462). Princeton, NJ: Princeton University Press.
- Jung, C. (1967). The transformation of libido (R.F.C. Hull, Trans.). In H. Read et al. (Series Eds.), *The collected works of C.G. Jung* (Vol. 5, pp. 204-250). Princeton, NJ: Princeton University Press. (Original work published 1916)
- Jung, C. (1960). The psychology of dementia praecox (R.F.C. Hull, Trans.). In H. Read et al. (Series Eds.), *The collected works of C.G. Jung* (Vol. 3, pp. 1-152). Princeton, NJ: Princeton University Press
- Jung, C. (1978). General aspects of dream psychology (R.F.C. Hull, Trans.). In H. Read et al. (Series Eds.), *The collected works of C.G. Jung* (Vol. 8, pp. 237-280). Princeton, NJ: Princeton University Press. (Original work published 1916)
- Jung, C. (1978). On psychic energy (R.F.C. Hull, Trans.). In H. Read et al. (Series Eds.), *The collected works of C.G. Jung* (Vol. 8, pp. 3-66). Princeton, NJ: Princeton University Press. (Original work published 1928)
- Jung, C. (1978). The transcendent function (R.F.C. Hull, Trans.). In H. Read et al. (Series Eds.), *The collected works of C.G. Jung* (Vol. 8, pp. 67-91). Princeton, NJ: Princeton University Press. (Original work published 1916)
- Kawakami, N. & Yoshida, F. (2015). Perceiving a story outside of conscious awareness: When we infer narrative attributes from subliminal sequential stimuli, *Consciousness & Cognition: An International Journal*, 33, 53-66.
- Lewin, K. (1936). *Principles of topological psychology*. New York, NY: McGraw-Hill Book Company Inc.
- Lewin, K. (1938). *The conceptual representation and the measurement of psychological forces*. Durham NC: Duke University Press.
- Lewin, K. (1951). Comments concerning psychological forces and energies and the structure of the psyche. In D. Rapaport (Ed.), *Organization and pathology of thought* (pp. 95-153). New York: Columbia University Press.
- Lewin, K. (1951). Field theory in social science: Selected theoretical papers. Westport CT: Greenwook Press.
- Lewin, K., Meyers, C., Kalhorn, J., Farber, M. & French, J. (1944). *Authority and frustration*. Iowa City, IA, University of Iowa Press.
- Mark, M., & Pearson, C. (2001). The hero and the outlaw: Building extraordinary brands through the power of archetypes. New York, NY: McGraw Hill.
- McGrath, J., & Rotchford, N. (1983). Time and behaviour in organizations, *Research in Organizational Behaviour*, 5, 57-101.
- Merikle, P. (1992). Perception without awareness: Critical issues, *American Psychologist*, 47(6), 792-795. Miller, J. (1978). *Living systems*. New York, NY: McGraw-Hill.
- Partridge, E. (2009). *Origins: An etymological dictionary of modern English*. London, UK: Routledge. Polanyi, M. (1968). Life's irreducible structure. *Science*, *160*(3834), 1308-1312.
- Webler, F. & Andersen, M. (2022). Measurement in the age of information, *Information*, 13(3) 111-119.