Follow the energy
Explore energy’s force-fields to see action research anew

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Abstract
The analysis of force-fields for managing social change developed by Kurt Lewin, Eric Trist, Fred Emery, and other pioneers in Action Research is used as a guide to explore the role of energy’s force-fields in bringing about emergent change regarding people, social groups, and ecology. Action Research uses force-fields as dynamic placeholders to follow the forces influencing people’s interactions develop into emerging organization complexities of social change. The paper charts a course of exploration that follows energy’s force-fields. The exploratory view is through the lens of energy and proceeds along three interlinked paths: 1) Energy: force-fields interacting for change, 2) Complexity: cooperative self-reorganization for change, and 3) Process: Energy’s Work Domains for enacting change. By focusing strictly on energy’s force-fields in action we can see better how change emerges from the processes of energy’s force-fields’ interactions. We can see anew our options for managing social change and develop better ways for us to enact them.

The world we have created is a product of our thinking; it cannot be changed without changing our thinking. If we want to change the world we have to change our thinking...no problem can be solved from the same consciousness that created it. We must learn to see the world anew. – Albert Einstein

Introduction — Force-fields for Social Change
The analysis of force-fields was developed by Kurt Lewin, Eric Trist, Fred Emery, and others to guide action research exploration of change in social ecology. Action Research uses force-fields as dynamic placeholders to follow the driving forces of energy emerging as social change. More specifically, those researchers sought to research the significant forces for social change that are commonly withheld deep in the human psyche of the participants involved in the social change.

These pioneers developed Action Research as an approach for researching the forces of social change by analyzing the forces involved in each situation presented. Action Research has continued to develop into a global social community of Action Research traditions in many fields of social interactions. Examples include education, training, organization development, health care, human resource development, health, business, human interaction development, and peace making. Action Research practitioners have incorporated Action Research principles, methods, and values into their ongoing innovations in managing social change in public, private, and NGO institutions. This paper proposes a research exploration of force-fields with Lewin, Trist, and Emery as guides into the nature and dynamics of the force-fields in social change in order to follow the energy to see energy’s force-fields’ process dynamics in the emergent complexities of social change. Therefore, the purpose of this exploration of energy’s force-fields needs to imagine a new way to see how energy’s force-fields bring about change in the dynamics of the emergence of organizational social change. By viewing how change emerges from the processes of energy’s force-fields’ interactions, it becomes clearer where places for making change and developing better ways to enact them.

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Fig. 1: Exploring Energy’s Force-Fields Work of Enacting Change

Figure 1 charts a way for exploration of energy’s force-fields proceeds along three interlinked paths: I) ENERGY: force-fields interacting for change, II.) COMPLEXITY: cooperative self-reorganization for change, and III) PROCESS: Energy’s Work Domains for enacting change. In addition, the paper is organized to move along the network of exploration sections numbered in Figure 1.

Kurt Lewin, Eric Trist, and Fred Emery were early visionaries in seeing energy’s force-fields at work enacting changes through social interactions. Therefore, there is a need to continue to explore the foundations of energy’s force-fields in enacting social change. Current social change requires a new view. Rosario Longo,¹ pointed out that:
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Lewin’s approach is not as static as it has been deemed to be in the end and it is definitely compatible with the idea that change is an exploration which does not have an end but a number of start, work, and rest stops. It is in fact widely recognized that change can allow just some moments of calm before the storm, with storm overwhelmingly predominating.

It can be concluded that Lewin’s change management approach is definitely still valid and that, in conjunction with the force field analysis, it can effectively enable businesses to successfully plan, design and implement change. Lewin’s approach is important not only in that representing a valuable structured approach to change management, but also because it can effectively help employers to keep track of all the achievements related to the previous change processes they have implemented, and ultimately to better keep pace with the ever changing world. What matters is to not misunderstand the model and the way it has to be intended.

Therefore, as Kurt Lewin, Eric Trist, and Fred Emery have set an example for us to see deeper into energy’s role in bringing about social change in the environment and to search for deeper insights into further guidance for managing social change today.

Seeing Action Research Anew: Exploring Energy’s Force-Fields

Seeing anew is not a call to discard the knowledge we have about change, but for us to able to learn to see it in a new light. “The new way of seeing things will involve an imaginative leap that will astonish us,”2. Imagining new ways of seeing brings new ways of thinking brings new ways of knowing, which brings new ways of doing, all of which brings possibilities for new ways of being and working together.

Lewin’s imaginative leap revealed social change in a new way by following energy force-field interactions in order to see how people found ways to change themselves and how they interact together with others to change their social worlds. This paper charts a way with figure 1 to take up Lewin’s and Trist and Emery’s Action Research force-field analysis point of view as seen through the lens of energy’s Force-fields. The main exploration path is:

Energy: force-fields interacting for change

The energy in the universe is infinite; therefore it can neither be increased nor decreased; only exchanged. This energy exchange is accomplished through energy’s force-field interactions causing emergent change. Lewin began his research of force-fields as a student by seeing that the science of topology could relate force-field analysis to people’s social actions as energy’s force-field interactions4-5.

Complexity: cooperative self-reorganization for change

Energy self-reorganizes through complexity which is defined here first as: the many interacting together to work as one. But this exploration path’s focus is also on energy’s complex interactions. Using the literal meaning of the word complex: ‘com-plex = with-folds, with-twists, and or with-braids’ presents energy as the master of self-complexing by folding itself, twisting onto spins, and into multiplex braids. Energy waves fold into various energy wave frequencies, twist into nuclear atoms, and are braided into manifold creatures such as people. Energy as master of complex change reflects David Bohm’s notions of enfolded or “implicate order”5.

The best image of process is perhaps that of the flowing stream, whose substance is never the same. On this stream, one may see an ever-changing pattern of vortices, ripples, waves, splashes, etc., which evidently have no independent existence as such. Rather, they are abstracted from the flowing movement, arising and vanishing in the total process of the flow6.

Lewin uses the term of “life space” to refer the many internal energy force-field complexes interacting together as one person. Further, when many people come together to act as one social group, Lewin then refers to the group as a “life space” as well. The force-field of such that complex sustains itself within its dynamic “life space” balance limits of what Lewin called a “quasi-stationary equilibrium”7-8.

Process Dynamics: Energy’s Work Domains for regulating change
The later called force-field analysis: the view may have come from Lewin’s topological approach of examination of the nature of social energy-exchange through what adaptive change to allow a degree of “out-of-balance” oscillation before its quasi-stationary equilibrium is properly restored. This allows a slight but important margin of freedom for energy to exceed its limits. Thus, there is always some chance for a degree of oscillation where even “out-of-balance” may be allowed before its quasi-stationary equilibrium is timely restored.

Kurt Lewin applied his idea of quasi-stationary equilibrium to his concept of “life space” in order to express the process of change and for something new to emerge. This allows a slight but important margin of freedom for energy to exceed its limits. Thus, there is always some chance for a degree of oscillation where even “out-of-balance” may be allowed before its quasi-stationary equilibrium is timely restored.

Energy’s Force-Fields as the Engine of All Change

Current physics generally accepts that mass is energy in formation of things (E=mc\(^2\)). Frank Wilczek points out that, “Einstein’s original formulation of the law was (m=E/c\(^2\)) indicating a possible way of explaining how mass arises from energy. . . the concept of energy is much more central to modern physics than mass. To Wilczek’s point of the importance of energy, in 2013 the European Space Agency found dark energy to be around 68 percent of the universe, Dark matter comprised around 27 percent. The remainder of the universe is which is everything composed of mass is less than 5% of the universe, depicted in Fig. 2.

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In that sense, for the sake of our exploration, imagining that the universe is in effect allenergy, may not be so far afield. Seeing through the lens of energy force-fields enables the tracking of the dynamic interactions of energy’s force-fields exchanging energy creating all change in the universe.

What then are energy’s force-fields? Energy force-fields are waveforms of force broadcast out to change the environment. The configuration of waveform itself is transmitting information regarding the energy’s affinities and capabilities to interact with other energy force-fields in the environment that may have matching affinities for energy-exchanges.

Energy’s dominion as the engine of all change in the universe:

1. Energy is infinite; it can be neither created nor be destroyed, only recycled; as expressed in Nature’s first Law of Thermodynamics.
2. Energy is dynamic, namely having oscillating enfolding force-field waveforms.
3. Change occurs only as an outcome of energy exchanges in energy force-field waveform interactions.

Kurt Lewin’s concept of quasi-stationary equilibrium for “life space” introduces the notion dynamic of a balance as oscillation between two equal states opposed to stationary single state. Balance connotes having some acceptable variance to the limit to the degree of oscillation where even “out-of-balance” may be allowed before its quasi-stationary equilibrium is timely restored. This allows a slight but important margin of freedom for energy to exceed its limits. Thus, there is always some chance for a change and for something new to emerge.

Kurt Lewin applied his idea of quasi-stationary equilibrium to his concept of “life space” in order to express the process of adaptive change to allow a degree of “out-of-balance” oscillation before its quasi-stationary equilibrium is properly restored. This view may have come from Lewin’s topological approach of examination of the nature of social energy-exchange through what he later called force-field analysis:

"I had already in 1912 as a student defended the thesis (against a then fully accepted philosophical dictum) that psychology, dealing with manifolds of coexisting facts, would be finally forced to use not only the concept of time but that of space too. Knowing something of the general theory of point sets, I felt vaguely that the young mathematical discipline “topology” might be of some help in making psychology a real science."
Complexing: The many folding in together working as one

Complex is a compounding type of term. It is both an inclusive and an exclusive. Complex is the case of ‘the many folding in together and working as one’. This would mean that Many energy force-field complexes can fold in together to change into one greater complex, and so on. Since complex means literally: with folds, twists, or braided together, change can only occur through the exchange of energy, energy is the sole source of complexity.

Therefore, energy can be seen to be the master complexing agent. Energy is always moving in a folded state of force-fields as shown in figure 3.

How do energy’s force-field waveforms perform their self-folding? The natural form of a dynamic wave folds itself into a spiral structure.

Adding energy to the waveform folds the wave together even tighter and makes the spiral emerge faster. The tighter the folds become closer the energy force-fields compact from say visible red to blue light waves. In the extreme the folds can compact tightly enough to gain the property of mass.

However, when energy’s dynamic force field waveforms come together to interact they may exchange energy to the point where they become intertwined (folded, twisted, and or braided) together. For example, when the electrical force-field interacts with the magnetic force-field, they combine into one coordinating manifold waveform complex to travel as light or electricity in the environment. The oscillating electric force-field generates an oscillating magnetic force-field. Then the oscillating magnetic force-field generates an oscillating electric force-field and off they go at the speed of light as depicted in figure 4. Light is an electromagnetic manifold waveform which transmits to our brain much of what we experience and know about our world, and later the universe through telescopes and spectrographic instruments.

The results of Lewin’s topological research led him to see that these complexes are not just single dimensional linear energy exchanges across time and space but they have dynamic force and direction human relationship aspects that can be usefully modeled through force-field analysis. Lewin uses the term, ‘life space’ to refer to the force and direction of the force-fields’ manifold social complex:

The structure of the “life space” determines what location is possible at a given time. What change actually occurs depends on the constellation of psychological forces. The construct force characterizes, for a given point of the life space, the direction, and strength of the tendency to change. This construct does not imply any additional assumptions as to the “cause” of this tendency, (See Figure 5).
Lewin’s dynamic life space model of energy’s force-field complexities (See Figure 6)

is based on the interaction of opposing dynamic complexes in folding their energy force-fields broadcasting definitive self-information about the nature of their dynamic complex presence together in the environment. It is only through the interaction of their dynamic energy manifolds of force field waveform force-fields that many complexes interacting to together can come together to interact internally as one complex and ten become as a member of many to interact together to emerge further into a more useful complex. David Bohm’s example\(^6\) cites an example of how many force field manifolds in fold into one; “Listening to music, one is therefore directly perceiving an implicate group of enfolded orders of complexity into coherent complex whole.” This illustrative case begins with many multi-modal interacting complexes (musicians) having gathered in past rehearsals. Now, as one orchestra the many are performing a concert of music for the many people in the audience. The dynamic energy field sound waves coming from the combined player’s instruments interacting together to become a manifold energy sound wave of music going out interacting with a participating audience assembled enjoy the orchestra’s musical performance. Rensis Likert\(^3\) described Lewin’s uses of force-fields to gain insights into change in social groups:

For Lewin, moreover, there could be neither research without therapy, or therapy without research, and his searching mind has given great help to those who try to assess the forces acting within the individual and within social groups.

Energy’s Key Work Domains for Managing Change

The nature of energy’s work interactions involves folding its force-field into increasingly complex systems of significantly different energy-exchange situations depicted as suggested Key Energy Work Domains in Figure 7

as energy’s universal force-field manifold. This model is not intended as a hierarchy, but rather a concurrently folding manifold and energy feed forward system of energy’s work domains of significantly various folding complexity requirements. This energy model portrays the universe as a unified energy work in progress. Essentially, the model of energy as selected key energy exchange domains is a presentation selection for this paper. The basic energy’s cosmos complex folding in energy’s work domains carries on through the other domains as a quasi-singular holographic complexing manifold enacting whatever complexes and combination of complexes are emerging as enfolded or unfolded during energy’s interactions work throughout the work domains.

Energy’s Fundamental Forces of the cosmos: strong, weak, electromagnetic, magnetic, and gravity interact at this formative level to sustain the dynamic balance through change in the universe. Then, when the electromagnetic force-fields combine to form a manifold that in turn enfolds into electrons, photons, and other particles, those particles continue to source their energy force-field waveforms from the fundamental interaction forces of the cosmos work domain and so on to people’s interactions in social groups.

While this selected classification of energy work domains is a convenience for the exploration of the emergence of energy-exchange changing adaptively along the complexity pathway. Nevertheless, a force-field view of energy erases any real distinction among these work domains so the flow of energy force-field interactions is contiguous throughout energy interactions. Nature does have quite particular complex guides as to how any energy complex may interact together as the engine of change in and across these energy work domains in the dynamic morphology of the energy’s force-field works.
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Energy’s Folding Process for Self-organizing Social Change

Sustaining universal singularity through maintaining universal energy’s quasi-stationary equilibrium involves a dynamic shift for interacting energy complexes. Energy’s complexes themselves must be self-reorganizing to sustain their own quasi-equilibrium presence in their ambient environment of interacting complexes. It is a busy universe. Self-reorganization applies to the energy of atoms stars and molecules and it applies to people and their social groups.

However, the case for energy’s work domain for organisms began only some four billion years ago. These living energy complexes have constantly worked at reinventing themselves biologically interacting with and adapting to sustain their allotted brief presence in their ambient changing environment. Their self-organizing needs focused on self-reorganization to be more effective in their adapting to sustaining their individual presence and the presence of “their Kind” traveling along Jay Gould’s “pathway of life. Indeed, life has thus developed into the most complex energy-exchangers of all: people.

People have become endowed through nature with a limited empowerment to be agents for energy to manage change through their working toward meeting their needs by self-reorganization. People are able to develop their own cultural human work domains to regulate and guide energy force field interactions.

Maslow’s hierarchies of five needs are displayed in their order of necessity. From an energy point of view the first two levels of needs, 1) Physical and 2) Safety relate most directly to nature’s mortal laws of ecological adaptation, namely, sustaining life, growing, and reproducing. The next levels are functional to meet a person’s social needs. 3) Social needs for belonging are the paper’s focus on managing social change. 4) Esteem needs focuses on personal character building to become a valuable and trusted social participant. 5) Self-actualization is the need to have achieved accomplishments meaningful to oneself and in one’s social environment. Therefore, if the needs from Physical and Safety levels are not being properly met, the needs of the social, Esteem, and Self-actualization levels may be pushed more to the background of one’s social interactions with the environment.

What does not appear in this model of needs is the dual nature of a person’s motivation toward social interactions. The first two levels are primarily motivated by energy’s biological governed by DNA, predominantly by way of natural urges and feelings. At the same time, a person has an active, if limited, personal discretion of free-will choices toward their energy exchange interactions with the environment, and especially social interactions with other people.

However, this needs hierarchy may be too limited for exploration of energy’s role in social change. All needs of a person to work change through energy-exchange are dynamically active, relative to a person’s interactions with their environment. To model people’s working to self-reorganize in order to keep their presence as an advanced energy complex within the environment requires a more dynamic and inclusive modeling architecture of a person’s role to participate in energy’s dominions.

The issue of self-reorganization with people is that they have a dichotomy of forces pressing on influencing their work efforts at every step. That people have developed an advanced ability to learn and invent ways to become more effective in meeting their basic and social needs. The dichotomy arises when there are conflicting needs coming from both the biological and rational forces. Rational forces can be checked out, while a significant part of the biological forces influence one to interaction are often hidden to the person experiencing them and hidden to anyone else as well.

People at Energy’s Work: Interacting Together in Social Reorganization

To sustain the view through the lens of energy, the premise of this exploration is that energy’s work is undertaken to sustain the overall quasi-stationary equilibrium of energy. Since the universal rules of energy as the work engine is: 1) exchanging energy is the sole cause of change; 2) the dynamic feature of energy is that energy is always self-interacting leaving the universe in a flux of quasi-stationary equilibrium. The fundamental notion of change is that energy force-fields are at work exchanging energy within and among the energy domains. The natural laws regulating energy’s work reside in the energy’s domains, are mostly described in physics, chemistry, and biology, and sociology, depicted in Figure 7.

For living organisms nature adds three basic mortal energy work directives: 1) To Sustain Life, 2) To Grow, 3) and To Reproduce. To accomplish these directives, living organisms are allowed a limited agency for energy-exchange to work their self-reorganization to adapt the other changes in their ambient environment in order to emerge anew in meeting life’s new mortal challenges. Humans, life has adapted people to sustain life by developing thinking, language and self-aware people with perceptive feelings that can take mortal responsibility to self-reorganize together as one in coordinating their work toward a common social outcome.
One of the most important adaptations of light and sound waveforms interaction energy-exchange systems people have achieved was self-reorganizing with each into many coming together to act as one complex group culture. Another is the development of visual, verbal, and written languages. Languages in the form of energy’s force-fields of sound and light waveforms have facilitated our social change making. It permits us to more effectively interact with each other, as well as to better retain shared experiences, feelings, learning, knowledge, thinking, and remembering.

Benedict Anderson (Anderson, 1991, 144-145) describes the genealogical origins of the human development of language points out the nature of emergence long to research using this:

First, one notes the primordialness of languages, even those known to be modern.

No one can give a date for the birth of any language. Each looms up imperceptible out of the horizonless past. (Insofar as Homo sapiens is homo dicens, it can seem difficult to imagine an origin of language newer than the species itself). Languages thus appear rooted beyond almost anything else in contemporary societies.

For our exploration in following the energy’s work domains, the word for energy and for work are central. Those two words were linked together back to energy as early as 7500 to 5500 BC. In Proto Indo-European language root for work-to do was werg. Later the classical Greek culture developed a family of words for energy based on werg: 1) Ergos = work, 2) Ergáths = worker”, 3) Ergon = energy’ 4) Energeia = energy exchange, 5) Organon = Instruments for work, and 6) Synergeia = Outcome. Incidentally, Organon became the source for our word organization.

Ctesibius of Alexandria (285-222 B.C.), a Greek inventor in Egypt invented the hydraulic pump into order to lift water from the Nile River to the farmers’ fields. He also invented the pipe organ, Hydraulis Organon, based on the same hydraulic principle. It provides an early demonstration of following energy’s force-field interactions in doing work. Ctesibius was able to see how energy from invisible wind forces can be exchanged through the hydraulic pump apparatus to energize the pipes to emit sonorous equally invisible energy force-field vibrations of music, (See Figure 8).

Ctesibius’ second century B.C. Windmill-Pipe organ provides a scenario to construct a basic social energy work model (See Figure 9). Ctesibius’ 1st Needs evaluated the Outcome to improve water transport directed him toward the key Values that define and change to possible attractive Outcomes of work to enact.

Ctesibius focused on Organization a social organization change by re-sourcing the energy work and Instruments of water moving from people powered carrying water buckets to the outcome of wind powered hydraulic pumps to enact the reorganization changes that will achieve the outcomes needed. The Doing happened when the when the applied energy is wind energy was effectively Reorganized into the required interactions that powers the hydraulic pumps. Performance emerged as Outcomes any time the wind blows with enough energy to perform the actual interaction energy-exchange process of the new unmanned reorganized changed work outcomes needed.

Life Spaces in Energy’s Social Work Dominions

Kurt Lewin developed action research as an analysis method of energy’s force fields to manage social change interactions, to which he refers to as Psychological Ecology, 12. Within the realm of facts existing at a given time, one can distinguish three areas in which changes are or might be of interest to psychology, (See Figure 10).
The life space is the person and their psychological environment as it exists for that person. We usually have this field in mind when we refer to our interactions regarding needs, motivation, mood, goals, anxiety, and ideals.

A boundary zone of the life space defines the physical or social world that remotely affects the state of the life space. The process of perception, for instance, is intimately linked with this boundary zone. What is perceived is partly determined by the physical stimuli; that part of the physical world which affects the sensory organs at that time. Another process located in the boundary zone is the execution of an action. Lewin's Psychological Ecology view of a person as a life space reflects Ittelson's view of a person having a non-object/subject view, but rather a view as participating as an inclusive space-time sensitive presence interacting within the environment.

Most perception research has been carried out in the context of object perception, rather than environment perception. The distinction between object and environment is crucial, because objects require subjects... In contrast, one cannot be a subject of an environment; one can only be a participant. The very distinction between self and nonself breaks down cold. The environment surrounds, enfolds, engulfs, and no thing and no one can be isolated and identified as standing outside of, and apart from it. The fact that they surround means that one cannot observe an environment.14

Lewin's focus is on the behavioral aspects of a person's life space that involves the psychological environment that is actively motivating each interacting participant's physical interactions. The conflict has been that the physical aspects of psychological influences on human actions and behavior experiences are often invisible from scientific scrutiny and from the participating person as well.

Lewin and Trist both discovered that the bio-psychological force-fields hidden within the interacting individuals being researched can best be researched and developed by training those participants involved as co-researchers and including them in the action research process. Their focus was in developing practical action research and development methodology for researching the management of the execution of personal social action to create change in the physiological environment of social ecology. This was the hidden psychological force-fields would be actively present in the action research.

Adaptive Inter-domain Interactions for Cooperative Change

The complexity of energy's force-fields increases dramatically in the organization of people working together as one complex of extreme complexity. Toward allowing more adaptability, nature has invested in life forms some limited degree of what is called free will in the form of their being able to sustain life, grow and reproduce. People found themselves invested with the capability to form energy into speech and use energy to consciously think about how to come together in a social group of many and to act as one human complex. This meant that additional sub levels of energy's work domains for interaction has engendered humans as energy's limited energy change agents. For example: 1) People have developed the ability to exchange energy force-field waveforms of articulated communication sounds as speech. 2) People developed a conscious retention of environmental energy force-fields interaction waveforms as perceptions to the human body and especially the brain as their experienced reality. 3) The ability to think and reconsider experiences before a person enacts them.

However, these evolved capabilities of energy-exchange interactions can often lead to an energy force-field overload that obscures the best way to decide the best interactions to take and leads to inner conflicts. Hence, action research in socio-technical systems developed into many other branches of personal and social development since the beginning of Action Research development.

The first step toward exploring social interactions is in viewing basic energy-exchange choices in the engagement of social interaction between two people. While Lewin and Trist and Emery were developing action research over 70 years ago. Karen Horney was researching a person's options when experiencing inner conflicts. Horney developed a model of action attraction scenario: “either move toward people, against others or away from them”15.

Figure 11 incorporates Horney's action interaction model modified to relate to the “Work as Energy Interactions for Change,” model in Figure 9 and to Lewin's Life Space as depicted earlier in Figure 5. Lewin, Trist, and Emery sought to develop interaction research methods to research the energy force field interactions that occur in the physical and the psychological environment of a person.
interaction environments that energize them toward particular courses of social interactions which can range somewhere between cooperation and conflict.

However, between the intensive dynamic complexity and the differences of a people's lived perceptive experience and their own psychological environment there are varying degrees and various conflicted situations that lead to what Lewin's student Leon Festinger (1962) called, cognitive dissonance. This cognitive dissonance is caused by a variety of internal conflicts and/or disconnects among a person's inner emotion and conscious reasoning draws them in an opposite direction relative to what their reason and common sense does. It is out of this muddle from which a person must guide their interactions relative to the competing needs. The case of conflicting needs is an important example among many cases of cognitive dissonance, (See Figure 12).

Changes in a person's situation can easily reshuffle the relative needed outcomes importance for interaction without the people being researched conscious awareness.

Lewin, Trist, and Emery, included training participants as co-researchers in action research's Force-Field Analyses method in their approaches to researching interactions along with their practical approach to making a the co-researcher participants' hidden psychological environment information part of the action research for the social change outcomes needed. Their participation would insure that their psychological environment will be involved in the exploration work as an operational element of the social interaction research.

**Social Self-Reorganization for Change**

The work in developing the character of a person's Life Space into an active versatile social personality is a lifelong action learning enterprise of personal social change. It involves a constant energy interaction for developing capacities and capabilities to work to perform successfully to meet one's needs and desired outcomes through social interactions in a variety of social group complexes, (See Figure 13).

This is where energy at work, complexity, and the energy's work dominions come together in the epitome of complexity, social group complexes coming together to interact to enact trusting relationships to cooperate as one in the city's expanding array of social groupings based on the criteria of consensual mutual needs. Nevertheless, characteristics of organizational environments demand consideration for their own sake if there is to be an advancement of understanding in the behavioral sciences of a great deal that is taking place under the impact of technological change, especially at the present time.

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**Fig. 12: Cognitive dissonance from competing needs**

**Fig. 13: Developing Personal Character a “Life Space “complex to participate as a City Policy Maker member in other Social Complexes**
Figure 13 also depicts a policymaker for a city as an example of a person emerging as a changing personal complex that is working in of city complex of citizens and organizations. Policymakers are selected as trusted agents of energy’s work dominion to provide guidance for the city’s citizen stakeholders to work on the opportunities and problems being brought about by the city’s perceived impending policy inter-environmental issues. The citizens, including government officials then focus their own work on the solving the problems and opportunities issuing forth from the issues. In that way each citizen decides how they can best apply their energy in viable energy exchange interactions to deal with policy issues for the combined benefit of their city.

Thus, fashioning polices of energy’s domains makes it possible for policymakers to provide guidance to the individual citizen self-manage their social interaction choices. Policymaking is energy applied to ongoing emergent metropolis complex as a work in process. The stewardship of the policymakers and citizens’ trust internalize the policy values as a perceived social contract of responsibility. However each participant citizen balances that guidance ethically with their own self-interests and with their other social obligations that guides participants to be able to self-manage their interactions in the city’s energy environment in support of their common good. Thus, policymakers, are actually energy’s agent stewards in sustaining the city as a complex.

The public trust is the social contract bond among people coming together from heterogeneous cultural and ethical backgrounds as municipal citizens recognizing they have common responsibilities and duties to their city for their benefit for coming to live the city complex.

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\text{The public trust is an important part of the social fabric of any nation — one of its most precious resources. Uncaring public officials can tear away at this social fabric, and there is a threshold of public trust, below which a regime can no longer be effective and is brought down of its own weight. History is strewn with the wreckage of regimes that have ignored this fact}^{17}. 
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However, there is the danger of hubris in policymakers and recalcitrant participating citizens alike. A policy’s balance between its regulatory guidance and selection of energy interactions’ duties should strive to reflect current reality of the larger complex’s situation to be effective, and yet have enough freedom for discretion of action freedom that the policy can also develop as the environment evolves. Public Administrators often find that policies are in need of change in order to continue to be stewards of sustainable equitable development in their larger global neighborhoods.

**Action Research for Developing New Ways to Enact Cooperative Social Change**

One emergent outcome from this exploration view of force-fields by following the energy is how significant it is that people can come together to work as one as social complex presence in the environment. However, through the lens of energy one sees that keepers of the status quo have an untenable goal in the long run. The status quo cannot be sustained in permanent equilibrium because the status is created by energy’s dynamic force-field interaction domains constantly working toward sustaining in a quasi-stationary equilibrium state. Curiously, energy’s work dominion efforts promises to ultimately unsettle any state energy achieves. Therefore social change is not a script of a closed circular work but one of an open emergence of pioneer action research like that of Kurt Lewin, Eric Trist, and Fred Emery in homesteading the future dynamic fields by being themselves a complex working together as one in a universe of energy’s newly emerging complexes.

Therefore, exploring energy’s force-fields prompts one to see anew as action researchers working with others in the full range of our eco-social communities. Kurt Lewin’s force-field analysis model incorporating Karen Horney’s various supporting/oppositional attractor forces provides us as action researchers an overview of the interacting stakeholder emergent complexes potential in what Trist and Emery referred to as socio-technical systems.

Are our Action Research traditions each to remain knowledge centers spiraling apart from each other or are we also growing a new Action Research Community to share our research innovations along the lines of new Action Research exploration taking in a global resource view of Action Research for cooperative social change?

By grounding energy’s fundamental role as guidance and force of governing change may establish it an additional function of complexity: linking the domains of action research change together. A brief survey of the Internet reveals a vast number of online Action Research development resource centers and university education programs that are serving various Action Research traditions including those explored in this paper as well as many others such as collaborative action research and capacity building to always see Action Research anew. By learning more about energy’s force-fields in action we can see better how change emerges from the processes of energy’s force-fields’ interactions. We can then see anew our options for managing social change and develop better ways for people to enact them.

**References**

1. Longo, Rosario, (2011), Is Lewin’s change management model still valid? HR Professionals,


