{Designing in an Intentional Field}

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Abstract: A field theory model of designing based on valuing offered as a general expression of design process. Designing defined as a telic, conditioned and situated social process in an intentional field. The relationship of valuing to designing: the promise of a value theory model; the conative-cognitive-affective structure of the valuing mind; evolution and application of the valuing concept from relational value to valuing as a total field; the psychophysical structure of the valuing mental space; the process-oriented vocabulary of valuing applied to designing. Designing cognized as a four-phase, goal-oriented, valuing process in intentional space: Attending to..., Intending toward..., Forming out of..., Meaning in experience. The widened semantic of meaning; The field metaphor strategy for representing designing as contextually conditioned and situated. Designing compared to Deweyian problem solving. Truth and knowledge in problem solving vs. designing. Interaction with fundamental and instrumental intentional projects of the deeper intentional field. Phase-dependence of attention, intention, form and meaning in an intentional field. The waxing and waning of meaning and the evolution of formative expressions.

Keywords: design theory; value; meaning; philosophy of language; field theory

Introduction:

The title above could have been just {Designing} if it were clear from the outset that the brackets were being used to represent an intentional field. Designing, here, is being defined as a goal-oriented intentional process that involves creating something new (or remodeling something that exists) for a purpose, to meet or fill a want, need, or desire, to resolve a problematic situation, to create and/or express an element of human culture, or to transform a less satisfactory situation into one that is preferred. (after Friedman, 2005 & Simon, 1986) The problem solving mental space that is called into attention by the brain chemistry of amigdalian responses to significant human-environmental situations, situations that call for a resolution of difference, whether immediate or deferred, is being called an intentional field. An intentional field is a mental image of the workplace where designing and associated purposeful, goal-oriented processes such as human survival and the quest for empirical knowledge take place.

The following field theory model, using valuing concepts and field notation, is proposed as a general

expression of designing:

$$\frac{{}^{D}\left\{{}^{c,v}\, A_{to\ldots}\{\text{Intending}_{\ \text{toward}\ldots}\ /\ \text{Forming}^{\ \text{out of}\ldots}\}\ M_e\right\},}{m_e}$$

The general expression asserts that there are four phases, four stages in the life of this process, Attending to…, Intending toward…, Forming out of…, and Meaning in Experience. These four central concepts drawn from axiological and cognitive theory name the commonly experienced, but not rigid, boundaries of the phases of designing. They are the purposefully razored-down minimum number of concepts required and have been recast in process terms in order to overlay the language of valuing onto the workspace of designing. The present dependence on an extensive, value-based vocabulary of designing, concepts such as interests, intentions, goals, criteria, judgment, choice and evaluation..., is taken as an indicator of the larger and unrealized potential of value theory in design.

The general expression is, of course, an abstract notation, not an equation. It is intended as an inclusive framework that expands into a discussion of designing like those compressed flowers that widen in a water bowl. To be successful it will need to prove to be a comprehensive, central reference schema for some 640 different areas of designing (Friedman, Love). It will need to overcome entrenched vocabularies and become a widely accepted way of talking about design. Since both these conditions are unlikely at this stage of design theory production, it is modestly hoped that this field theory proposal will add pragmatic insight to the present discussion and open up new doors and new directions. They say that pragmatist William James had a house with twelve doors, and they all opened out.

The Promise of Value Theory

This value theory model would seem to give promise for:

1. Providing an abstract, inclusive, easily visualized framework-like mnemonic of the intentional process of designing;
2. Helping to denote and develop understanding of the key concepts and phases of designing, their particular intentional focus, defining activities, formative expressions, operational boundaries and continuing functional field presence;
3. Applying new understandings of consciousness as fundamentally emotional and intentional to designing;
4. Representing the mind in designing as a valuing mind that is integratively (and simultaneously because of brain networking and parallelism) conative, affective and cognitive;
5. Understanding human values and valuing as a fundamental source of the conative and

affective in designing;

6. Applying the intrinsic subject-object, mind-world structure and total field concept of valuing to designing;
7. Attending to a wider and deeper aboutness in designing drawn from the full spectrum of human valuing;
8. Developing an expanded semantic of evaluation in relation to the expanded aboutness of a valuing mind and the consequent richness and complexity of its formative expressions;
9. A better explanation of the situated, conditioned nature of designing and its fundamental differences with Deweyian problem solving;
10. Helping to clarify questions related to truth and knowledge, cultural conceptions of "the good," and the personal stylistic preferences of designers in designing;
11. Using valuing as a philosophical strategy for exploring some of the unresolved ontological and epistemological problems (mental-physical, inside-outside…) of design theory;
12. Generating some value theory related speculation about the fact-value divide when intentional goals are directed toward action and expression.
13. Developing valuing as a mother tongue and unifying common language for the vast archipelago of designing.

Value and the Valuing Mind

My purpose now is to lay out the broad territory of the value concept, its philosophical evolution and its more specific application to designing. Anthropologist Ruth Benedict in her book, *Patterns of Culture* (Benedict, 1948) describes cultures at their most general level as value-expressive. Cultural patterns, she asserts, are patterns of value that can be directly and indirectly linked to their many kinds of formative expression: ideas, institutions, artifacts, places, beliefs... Beliefs are our most deeply held and arguably most powerful values, our sacred values. These are ones that ride below reason, those for which no empirical evidence is wanted. Studies of value (Rokeach, 1973) suggest that the actual number of human values is less than 100 and may be as low as 35. Differing value priorities and emphases, rearrangements in the DNA-like building blocks of valuing, account for the great variety in human cultural expression. Sociologists model values into general categories (such as, social, political, economic, aesthetic, spiritual, ecological, educational, and functional values) to help trace the linkages between broad areas of human interest and their cultural expressions. Designers work, project by project, at transforming interests into the evolving world of formative expression.

The valuing mind that produces culture is an evolutionary product of a human consciousness that is fundamentally intentional and emotional (Dennett, 1991). Its aboutness is the full spectrum of human values, and "aboutness is all you need for intentionality."(Rorty, 1998) Valuing mind is here conceived as an integration of a conative, affective, cognitive, situated awareness. This is a mind that experiences joy, sorrow and delight and one that can anticipate, imagine, dream, plan, choose, appreciate, play, and act – that can create a world. Understanding designing as being in service to -

and needing to mirror - this broadened conception of mind is the backbone of this paper. Opening up and unpacking the concept of value is its primary means. The intent is to show designing as an intentional and value-expressive process of valuing minds, and designing without valuing like a car without a driver, fuel or destination on a trip without meaning.

The Vocabulary of Valuing

A rich, valuing vocabulary is the expected cognitive expression of a valuing mind. The vocabulary of valuing contains many of the "usual suspects" of designing, concepts such as interest, attitude, concern, desire, need, want, intention, goal, criteria, evaluation, judgment, choice, ends-in-view, expression, embodiment, meaning, to name just a few in common use. Research here (Rokeach, 1973) reveals a valuing vocabulary that, like designing, spans the psychophysical continuum. Goals, for example, show up at both ends of the continuum and in the middle. A goal is initially a formative expression of a desired end-in-view, and it is ultimately - after a few adjustments along the way - a consummation. Goals exist initially as directional guides and later as destinations. En route, goals also function as criteria in an ongoing evaluation. One of the unexpected findings of this axiological inspection is the discovery that other key value concepts, like goals, persist and play changing roles in all phases of designing.

There are value family words more closely associated with mental states of purpose and desire and those that convey its physical realization and expression. For the sake of avoiding repetition, I'll be referring metonymically to value as **interest** (instead of each time saying, interest, want, need, desire, concern...) when I am talking about its mental and purposeful realm. I'll use **formative expression** when referring to value expressed, embodied and reified. It's important to keep in mind, however, that a full-spectrum of valuing vocabulary exists because of the need to represent the concept's richness of range, power and use ("Look to its use.").

The Structure of Valuing

There is a reason that one almost always sees valuing and meaning linked together, as in the phrase, "the valuing and meaning of..." The reason is that valuing and meaning, like tension and compression, always coexist (Diethelm, 1998). On inspection it can be seen that meaning has been conflated in the concept of valuing, hidden like the extra dimensions in string theory that are curled up too small to be noticed.

Valuing always has an emotional, appreciative, evaluational meaning dimension, an ever-present shadow, as in interests/matter and needs/are serious, pressing. The meaning side of valuing is both indicator and measure - **that** something is of interest and a taking stock of **how significant** that interest might be. Valuing, which indicates a particular desire, purpose or direction, always carries hidden measures of emotional pressure and directional force. The fact **that** something is desired is

always coupled with an awareness of just **how strong** that desire is. This conflation of aboutness with some emotional and cognitive evaluation of that aboutness has created a good deal of confusion about the role of meaning in design. It has allowed many to miss the ongoing and critical nature of evaluation in designing. I underscore this first level of conceptual unpacking of valuing, which I'll write as, **v/m**, to call your attention to this fundamental and too often misplaced dimension of the idea. Think of valuing as a concept with a "flip-side," and always expect to find something recorded on both sides.

Along with this semantic complementarity, the value concept also bridges the ontological divide between mind and physical world. It is of particular interest here that it isn't just a matter of interest, but more importantly a matter of **interest in…** - interest in something. Valuing is always transitive, an interest in an object (Perry, 1954), and conversely an object of interest. Because a continuum is acknowledged and already contained within the concept, valuing means never having to say psychophysical. By exposing this additional conflation, valuing's unpacking is now complete.

But there is more. The interest/object two-way relational structure of valuing is philosophically useful but is not the stopping point in the evolution of the value concept in the 20th Century (Murphy, 1988). The relational structure has been extended, initially in aesthetics (Rader and Jessup, 1976), into that of a holistic interest/object configuration or gestalt. As it turned out, less than fulfilling safaris after beauty into the divided jungles of aesthetic interest on the one side and aesthetic object on the other lead to a more unified geography, the fusion of aesthetic interest and aesthetic object as an aesthetic gestalt. This holistic fusion (Langer, 1953) recast the former relational partners as complement and as functions of one another. They became merely different perspectives on a larger whole in a manner similar to the wave/particle conception of light in quantum physics. The idea of not just aesthetic value, but valuing generally as a holistic configuration or gestalt has greatly extended the philosophical range of the valuing concept.

I prefer and am using the **total field** expression of the gestalt idea by philosopher Arne Naess (Naess, 1995). He describes it as follows: "An intrinsic relation between two things A and B [or A, B, C, D...] is such that the relation belongs to the definitions or basic constitutions of A and B so that without the relation A and B are no longer the same things." In short, the elements of the field are all functions of one another.

The field metaphor here is borrowed from physics where an electromagnetic field is defined as a conditioned space that has the potential of producing a force. Brian Greene in The Elegant Universe describes the photons that make up an electromagnetic field as "messengers" that tell the charges entering the field which way to turn. Naess is using the concept environmentally to describe a complex causality in environmental ethics and so am I to describe the complex functionality of the central concepts of designing. Valuing, like designing, is conceived as occurring in a socially and culturally conditioned space, in a field if you will, which situates and grounds the activity. Valuing, like designing, takes place.

The idea of valuing as a total field provides a powerful way of representing valuing concepts as functions of one another and the way that valuing is culturally conditioned and situated at the same time.

With this as background I can now write a field expression of valuing as follows:

$$\{^{c}\ v\}_{,}$$

where the brackets represent a field condition. Valuing, v, takes place in a conditioned, c, field { }. Unpacking the valuing gestalt yields an image of the valuing continuum.

$$\{^{c}\ Int_{in\ldots}\ /\ Ob^{of\ldots}\}_{,}$$

where interests and objects are not just related but situated and conditioned functions of one another.

Adding in the emotional and evaluative dimensions of intensity and significance of valuing, the expression becomes:

$$\frac{\{^{c}\ Int_{in\ldots}\ /\ Ob^{of\ldots}\}_{,}}{m_{e}}$$

where m_e represents both the fact that both interests and objects matter, have significance and can be aptly expressed, a combination I'll discuss further as meaning in experience, m_e.

Applying the Valuing Field Concept to Designing

The application of this thinking and notation to designing is as follows:

Designing we have said is an intentional process that transforms the "desirable into the desired" (Dewey) or "existing situations into the preferred" (Simon, 1986), and, from a valuing perspective, differences in interests that matter into significant, satisfactory and successful formative expressions that resolve those interests.

Designing can be represented as taking place in an conditioned intentional field, where the telic

nature of the field is a primary field condition. An inescapable dimension of its conditioning is the language and concepts of valuing in which it is situated. Since designing and valuing both occupy a psychophysical workspace, it is possible to overlay the processes as follows where ${}^{D}\{\ \}$ represents an intentional design field :

$$\frac{{}^{D}\{{}^{c,v}\ \mathrm{Int}_{\ in\ldots}\ /\ \mathrm{Int}^{\ exp\ldots}\}_{,}}{m_e}$$

The intentional field expression, D, describes the familiar experience in designing of seeing significant interests and the possible resolution of those interests, important needs and the potential for successful resolution of those needs, critical concerns and pressing desires and the opportunity for the successful satisfaction and resolution of those concerns and desires as a unified, functional, conditioned whole.

But there is a difference between being interested and projecting the formative potential of those interests and making a commitment to do something about it. In designing, that means making an intentional commitment toward the often considerable work necessary for formative resolution. When that occurs, the interior of the expression becomes:

$$\frac{{}^{D}\{{}^{c,v}\ \mathrm{Intending}_{\ toward\ldots}\ /\ \mathrm{Forming}^{\ out\ of\ldots}\}_{,}}{m_e}$$

This is process-oriented, valuing language for the iterative, heuristic heart of designing. In intending toward...---> <---forming out of..., interests are expressed as intentions, and conditioned, situated intentions reach toward their resolving formative embodiments and expressions. At the same time, conditioned and situated formative expressions are measured in terms of their successful and satisfactory reification of generative intent. Forming out of… doesn't just mean forming out of intentions, but also of the physical and cultural world in which those conditioned intentions are situated.

Intending toward...---> <---forming out of... is iterative in that the formative expression of intentions, especially when the intentional program is complex, must usually proceed through stages of lower to higher levels of successful and satisfactory integration and composition.

Intending toward...---> <---forming out of..., is heuristic, a learning process, in that each iteration of formative expression inevitably carries with it additional qualities that may not have been intended, and these qualities on reflection have the capacity to reach back and reopen thinking about intentions, which lead to new formative possibilities and probes... and so on until resolution.

The products of this iterative, heuristic process are never perfect physical representations of their intentions because of the indeterminacy that comes with transmutation between the mental and the physical ends of the continuum of intending toward...---> <---forming out of....

Formative expressions are composed symbolic and metaphoric compositions, sometimes of considerable complexity and density, that attempt to represent their intentional origins and the growth of intending toward...---> <---forming out of... understanding that takes place in designing. Designing as a learning process means that the goals that initiated the process may not be the exact same goals that bring final resolution. Form is not quite so directly the shape of content, as the title of Ben Shawn's book suggests, but will usually bears a strong evolutionary, family resemblance.

Attending to Situations That Matter

To account for the notable shift that takes place in designing from situational awareness of significant difference to committed intentional/formative work, the general notation needs to add an expression and so looks like this,

$$D\left\{{}^{c,v}\, A_{to\ldots}\{\text{Intending}_{\ toward\ldots}\ /\ \text{Forming}^{\ out\ of\ldots}\}\right\},$$

$$\frac{}{m_e}$$

where $A_{to\ldots}$ / m_e should be read, Attending to... situations that matter. The compressed form states that design situations are perceptions of significant difference that arise in a situated, conditioned intentional awareness. This *attentional* phase of designing is its source phase and not a pre-design phase as it is sometimes mistakenly labeled. In this place of origin, situations that require immediate action are sorted out from those that require the more focused, purposeful attention of designing that leads to formative resolution.

In Attending to... perceptions of significant difference are cognized and socially constructed as shared evaluations of "where matters stand" and both a qualitative and quantitative expression of "what needs to be done."

The phase work of Attending to... is

1. To attend to, expand and vivify the aboutness of a situation through a careful consideration of all areas of human value;
2. To identify valuing priorities and emphases, the central drivers of the process, and those that are sine qua non;
3. To identify and sort out personal and organizational interests, needs and desires;
4. To develop working relationships and decision-making processes;
5. To develop shared initial images of opportunities and possibilities - of desirable futures that could resolve the situation;
6. To scope the situation, that is, to set out a tangible, bounded program, one with start-up goals, initial expectations and a sense of both what needs to be done and what does not.
7. To identify necessary resources and commitments, and everything else necessary to overcome the inertial fear of change.

The Attending to… phase must bring a design situation to ripeness, a readiness for making a commitment, the intentional commitment to move into the intending toward...---> <--- forming out of... phases of designing. Ripeness requires that the felt-promise of success is strong enough overcome the natural human fear of change in any group. This means that the Attending to… phase must generate enough enthusiasm for a mutually desirable future such that the social inertia of transformation is overcome – in order that the required dedication of time, effort, and resources is judged to be worthwhile. When this is accomplished, the attentional phase ends and the more intentionally focused and resource committed, intending toward… forming out of… heuristic process begins.

Meaning in Experience

$$\frac{{}^{D}\left\{{}^{c,v}\, A_{to\ldots}\{\text{Intending}_{\ toward\ldots}\ /\ \text{Forming}^{\text{out of}\ldots}\}\, M_e\right\},}{m_e}$$

A wider aboutness quite naturally brings new demands on the integrational and compositional processes of formative expression. It also calls for new thinking about the nature, role and situation of evaluation and communication throughout the process. The wide world of the artifactual includes linguistic expression but the preponderance of its territory (paint, pixels, music, sculpture, products, places,…) is nondiscursive and as such requires a wider semantic. The proposed concept here, derived from valuing and the valuing mind, is Meaning in Experience.

Meaning has been defined as a function of valuing, v/m_e, as in the example, interests/matter. I have

suggested that this indicator of visceral recognition, appreciation, significance and the measuring of how much something matters is so common in everyday experience that we hardly notice. We do, however, attend to things that matter enough to capture our attention. And in the attending to…, intending toward…, forming out… of process there is always a functional evaluation, m_e, taking place.

Meaning, M_e, is an indicator of the valuing experience in three primary dimensions: **that**, **how**, and **what**, i.e. **that** something means/matters - is significant (and how much it means), **how** it means, how aptly it is expressed, and of course, **what** something means (in whole and part) in the more usual semantic sense, except that the **what** is always a function of the **how**. $Meaning_e$ in this expanded conception is "measured" in terms of presence, significance, satisfaction and success, acknowledging the mix of emotional, purposeful, appreciative, cognitive dimensions of aboutness being evaluated.

$Meaning_e$ also depends on its situation and the relative location of the "measurer," (as in the Special Relativity equations) in the process. $Meaning_e$ varies depending on whether the **that - how / what** evaluation is being made by those (persons, groups) intimately engaged in designing, m_e, or those with less intimate knowledge of the intention/form relationship, M_e. Examples of this one step removed intimacy might include clients, juries, critics, and all those who experience the products of designing with the benefit of presentations and explanations. Yet further removed are the many others who construct their $meaning_e$ out of unguided direct experience.

Consider, for example, a location even further removed from the interior of the process, M_o, which represents the construction of meaning at a cultural distance in time and place that is far outside the field.

$$\frac{D\left\{^{c,v}\, A_{to\ldots}\left\{Intending_{\ toward\ldots}\ /\ Forming^{out\ of\ldots}\right\} M_e\right\} M_{o,}}{m_e}$$

A case like this might represent the distant relationship we have with petroglyphs, or such artifacts as the cave paintings of Lascaux and Altamira. We can only guess from a perspective of our common humanity about the artists' original intentions (functional? spiritual? aesthetic?) and *their* meaning as we construct *our own* out of the repertoire of who we are today. More exotic examples might be that of the "wild child," raised by a pack of wolves, who has no basis for interpreting our culture, or the cross-cultural dilemma raised by Michael Reddy in his "The Tool Makers Paradigm." (Reddy 1993)

Meaning in experience is thus a situated, conditioned, social construction of valuing minds - a

construction from a situated point of view of greater or lesser intimacy with the formative process.

In a plural culture, M_e can be expected to vary because of the different valuing priorities and emphases that exist from group to group. An example of this is the varied criticism of cultural expressions produced by pundits and critics whose writings represent – and are expressive of - their differing theoretical, religious, political, social, economic, ethnic, situated perspectives. But M_e also represents the potential of a broader social agreements about formative expressions. This can occur where subgroups share enough of the core values of the expressive product and in those instances of value-expressiveness that fit into a larger common culture and evolving canon.

Understanding m_e is to listen in to the conversation of designers weighing the relative merits of the many iterative, formative efforts that mark the path from initial attentional representations and their social constructions toward better and more significant, satisfactory and successful integrative formative expressions and compositions.

Understanding M_e is to listen in on the conversation of critics covering the undivided territory of meaning in experience from **that to how / what**, knowing that the emotional appeal, the direct appreciation – **that** something means – is tied up with a comparative appraisal of its significance; and that that combination in turn depends on the **how** of its expression.

There is, to take a literary example, a critical difference in meaning between the expression, "Bring on your damn storm," and the kingly, "Blow ye winds and crack your cheeks." In the non-discursive world, there is a world of expressive difference between the mechanically similar VW Beatle and the Karmann Ghia, between other car designs of the time and the Raymond Loewy Studebaker. Different expressions, emphasize difference qualitative preferences, evoke different responses, and have different shades of meaning. "Pass the salt," depending on **how** it's said, can mean either, "I'd like some salt," or "I hate your bland cooking."

To take another product design example, the formative process might yield two hats, both of which quite handsomely cover the head and meet all the other usual hat criteria - but one of them uniquely makes us laugh. Herbert Muschamp in his review of the new Guggenheim museum at Bilbao (Muschamp, 1997) had to resort to a Marilyn Monroe metaphor to explain the building's sensuous, robust and curvaceous presence and its luminous skin. And while it is possible to collapse the **what** dimension of meaning to the merely denotative (It's an art museum.), doing so lets out all the air of appreciation and felt-experience from the meaning concept.

Situation and Condition

Designers are situated in an intentional field. This isn't Designer Stance (Dennett, 1991), something postulated by those on the outside looking in. This is where designers wake up every morning,

knowing through the bodily experience of designing that there is a profound and direct connection between their valuing interests, the agency of their intentional and formative work, and the world making/transforming and formative expressions of their efforts. Theories that ignore the ontology of this mind-world experience - which is sine qua non for designers and designing - are of little use.

On this view, designers are situated in an intentional consciousness, in a language, in a culture, in a specific time and place, and in their experience of the process and belief in the efficacy of designing. In field language, they are situated in an intentional field that is conditioned by language and culture, as represented by a specific group in a specific time and place, and by their own experience. The idea of context doesn't quite catch the deep flavoring and force of this "field" conditioning, which plays such an overarching, interactive, shaping role in the continuous evaluations of formative proposals in the design experience.

Field-conditioned in this postmodern or late modern culture most certainly includes:

1. Believing that our world is not finished and can be transformed for the better by human will and work, and being aware that this is a modern stance;
2. It means being aware of having beliefs, ethics, moral expectations and ideals - conceptions of "the good" - to measure against.
3. It means being aware of being grounded and decentered in an aesthetic, as manifested in some corner of the contemporary art world, and in the preferred felt-qualities and expressions of that local experience.
4. It means being aware of being situated in contemporary science, technique, politics, and economics;

And designing is most certainly conditioned by a personal relationship with:

1. Knowledge that makes it possible to distinguish situations of difference that are resolvable through designing from those requiring other kinds of resolutions;
2. Relevant empirical knowledge, including accrued knowledge from the experience of designing;
3. Habits of designing, including tastes, expressive predilections, style, and ways of working with others,

Compare the above to John Dewey's pragmatic conception of problem solving, a process of inquiry brought on by a problematic situation. Problematic situations were said to arise, "where man as a human organism encounters contingent or unstable elements in the environment." Pragmatic problem solving In Dewey is focused on getting on with things, getting things done. It is purposefully - and some have claimed excessively - disconnected from cultural history and authority in order to keep "frozen and encrusted traditions" from impeding needed fresh thinking. But an orientation that points only to the future lacks an ethics and any basis for assessing how far short a fresh new solution has fallen from the "the good" or an ideal.

Pragmatic truth, then, is whatever works, and the meaning of knowledge in this version of problem

solving is reduced to a knowledge of process - only what is needed to "turn desire into the desired." In Dewey this generally means finding fresh solutions to impending social problems. George Santayana, in his critique of pragmatism, "chided Dewey for denying the poetic nature of consciousness by 'dissolving the individual into his social functions'." (Diggins 1997)

In contrast, a conditioned designing in an intentional field looks both ways, backward and deeper into its conditioning situation and imaginatively forward toward the altered situation that is wanted, needed, desired, preferred… Attending to the aboutness of a present situation is *about* (interest in…, concern for…, the appreciation of…) not just social problems but perceived differences that "need designing" that arise across the full spectrum of human valuing.

While admitting a debt to the mind-world solution space of problem solving, this valuing field theory does not subscribe to what might be called Dewey's early modern, 'starting from ground zero" sense of truth. Nor is a "truth of valuing" a correspondence theory of truth in the sense of one-to-one correspondence between language and the world or a belief in the mind as a mirror of nature (Rorty, 1979). Truth in valuing, as might be expected, grows out of the structure of the value concept itself. It gathers into oneness and emphasizes the field wholeness of: {worthy goals and significant, satisfying and successful resolutions}. The worthy goals of designing are the product of conditioned social conversations, as are its meaningfully expressive resolutions and fuller-minded evaluations.

Knowledge in an Intentional Field

Knowledge as noted by Aristotle 2400 years ago varies in human intentionality. Different kinds of situations depend on and yield different kinds of knowledge. Below are three expressions of goal-oriented intentional fields using the Lakoff-Johnson meta-cognitive image schema of source ' path ' goal (Lakoff, 1993 & Burnette, 2005). All are in the larger sense examples of conditioned problem solving, but the nature of both problematic situation and knowledge varies with the nature of the perceived difference encountered in each situation.

1. $\{ \text{Source}_1 \rightarrow \text{Path}_1 \rightarrow \text{Goal}_1 = \text{to survive} \}$
2. $\{ \text{Source}_2 \rightarrow \text{Path}_2 \rightarrow \text{Goal}_2 = \text{to know} \}$
3. $\{ \text{Source}_3 \rightarrow \text{Path}_3 \rightarrow \text{Goal}_3 = \text{to transform, invent, create…} \}$

In the first instance, a situation arises that requires the instantaneous application of built-in knowledge and immediate action. Even without full conscious awareness, perception, evaluation and action collapse into an instantaneous response, as for example when someone spills hot coffee in your lap. An evolutionary knowledge, extended in experience through after the fact reflection, provides humans with an important selective advantage for survival.

The second instance is one in which the perception of difference is not danger but rather a gap

between what one knows and needs or wants to know. Here the time dimension of attention is an extended cultural path of scientific inquiry with empirical knowledge as the primary goal.

In the third example, a difference in preference arises that previous knowledge and experience evaluates as significant, worthy and suitable for designing – for changing existing situations into the preferred, desire into the desired. Knowledge of the process of designing is used to scope and structure the experience. Knowledge of possibility, of "better" and the ideal illuminates alternate, potential futures. Here knowledge itself is not the primary goal, but becomes an instrument in the iterative path toward transformation.

A fuller understanding of the designer's perspective, however, requires that we rotate the three intentional fields until we are looking down through them as though from the third level of one building. This is a top view of three great human projects, designing (The Quality Project, Diethelm, 2001), knowledge (The Reality Project), and survival (The Survival Project), transparently seen as one.

We need this image of an intentional field with layered intentional depth in order to more fully appreciate the associative, interactive nature of evolutionary imperatives, multiple goal-oriented processes, and situationally tailored paths.

$$\left\{ \begin{array}{l} \text{Source}_{\blacksquare} \rightarrow \text{Path}_{\blacksquare} \rightarrow \text{Goal}_{\blacksquare} = \text{to survive} \\ \text{Source}_{\blacksquare} \rightarrow \text{Path}_{\blacksquare} \rightarrow \text{Goal}_{\blacksquare} = \text{to know} \\ \text{Source}_{\blacksquare} \rightarrow \text{Path}_{\blacksquare} \rightarrow \text{Goal}_{\blacksquare} = \text{to transform, invent, create...} \end{array} \right\}$$

Besides revealing the situational role that knowledge plays, relative position in a deep intentional field conditions our understanding of the ways that the three great projects are nested functions of one another. Survival, the evolutionary mother of emotional, purposeful consciousness, is sine qua non and the base source of intentionality. Reliable knowledge extends our selective advantage. Designing builds on both to shape the human world.

From a deeper field perspective, the level-two quest for empirical knowledge has gained its remarkably effective leverage by adopting a cognitive strategy of objective description and experimentation. Its success has depended on an ability to focus attention more narrowly within the valuing mind, shifting attention away from the harder to control conative and affective dimensions of knowledge seeking. The part of this that includes the shedding of the historically dogmatic has been of unquestioned benefit, while the belief that the ethical consequences of discovery is someone else's project, has not.

Interestingly, both survival and designing situations place description in service to the primacy of evaluation in order to determine worldly action, whether immediate or delayed. Dewey contended that in dangerous situations we act and then perceive so that we can better act in future situations.

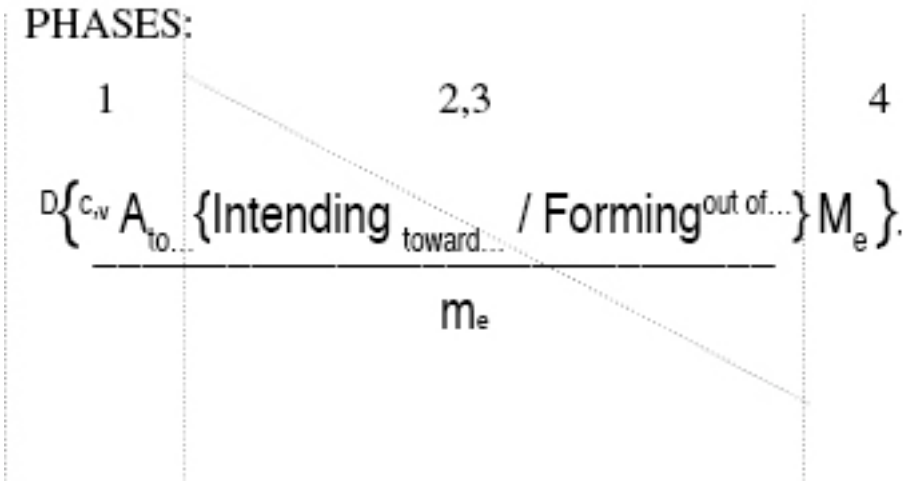
This suggests that the privileging of description and its separation from evaluation that we know as the naturalistic fallacy, the wall between facts and values, might be only a level two intentional field phenomenon and not the general case. In considering the evolutionary, adaptive role of language and narrative, Ursula K. Le Guin suggests that we didn't just wander around for millions of years "making statements of fact to one another" (Le Guin, 2000). Descriptive utterances, such as "The baby is burning," were first survival projects requiring immediate and direct action. From a deep field perspective, an isolated level-two view of knowledge is dangerous and can be morally repugnant when it is uncoupled from – that is, not conditioned by - its survival value association and when it is ethically disassociated from its value-expressive applications.

{ Designing }

In this paper { $Source_1 \rightarrow Path_1 \rightarrow Goal_1$ } = to transform, invent, create… is being meta-cognitively represented in valuing terms and mental space as a four-phase process of designing in an intentional field.

The deeper field intentional processes as described above with their signature goals and valuing dimensions are present as fundamental field conditions [c], visible by tipping the expression to reveal its third dimension.

A phase is a stage in the life of a process, and the four phases: Attending to…, Intending toward…, Forming out of…, and Meaning in Experience, name the commonly experienced, but not rigid, boundaries of designing.



As suggested by the field within a field notation, the sequence is not simply 1,2,3,4 and not even 1,2-3, 4. The rhythm 1, 2-3, 2-3, 2-3.....,4 is probably closer to the actual experience. It is more of a great circling waltz than a march.

Phase 1 in this expression has a widened and deepened aboutness to it, which in turn adds difficulty

to the transmutative process of formative expression and demands an expanded semantic of evaluation, appreciation, and re-cognition. In Phases 2-3, early intentional work, such as the development of goal arrays and visioning exercises, require their own formative expressions. Toward the far end of formative work, intentional forces remain present as criteria for composition and expression, but the emphasis is on the expressive capacities and potentials of the physical.

Just as the I---> / <---F relationship is heuristic, so is the A...{ I---> / <---F} part of the growth of understanding in designing. What a project is about continues to be clarified and more profoundly felt as it progresses. This growth in understanding redirects end-state expectations and reshapes the possible outcomes of the work.

A further description of the functionality of the four phase concepts, the role each plays in each phase of designing in an intentional field, is given on the chart entitled Phase-dependence of Attention, Intention, Form and Meaning in an Intentional Field which follows. The chart is a device for showing the sixteen windows of this field theory, four for each phase, as being always open in the designer's workspace. Like a computer desktop, the one where you are is at the front, but the others are always close behind and mentally nearby.

A larger implication of this dynamic set of relationships is the temporary stability of expressive form. Formative expressions depend on (are functions of) their perceived resolution of design situations as measured in terms of significance, satisfaction and success. As time passes, as people change their minds about what is wanted or needed, as dissatisfaction with a present situation grows, as present plans, products or other artifacts of a previous cycle of designing lose their $meaning_e$, new situations, new perceptions of significant difference arise in human attention and the process of interpreting and resolving difference begins again. Form is a punctuated equilibrium.

Conclusions:

The concept of valuing brings some refreshing, new conversation to the table of designing. As a spread, it appears to cover the same workspace continuum. The psychophysical overlay of valuing to designing is a remarkable fit, if not perfectly congruent.

Designing at present lacks the common ground (the wonder ground?) of a Bahasa, the constructed tongue that brought greater unity to the over 350 separate languages and dialects of the Indonesian archipelago. Could the language and vocabulary of valuing, more systematically understood and consciously employed, become the official second language of designing?

Unpacked, the valuing concept broadcasts a richer spectrum of aboutness. It opens out to reveal a multidimensional and more integrated concept of mind. It stretches across the psychophysical continuum. It necessitates a widened, more humanly responsive, appreciative and evaluative semantic.

Valuing expressed as a total field makes possible the modeling of designing using a framework of only four central concepts. Field functionality conveys the complex, interdependent causality of the central concepts and their phase-dependent meaning. Defined as functions of one another, new relationships emerge that fit our experience of designing. Valuing as a function of meaning redefines meaning as value's constant shadow. Valuing conversely is meaning's constant sun. The phase 2,3 complements, intending toward...--> <--forming out of..., overlap, like salt and fresh water meeting in an estuary, and gradually dissolve into the wholeness of formative expression.

The field concept strategically locates and activates the concepts of situation and condition. The concept of a deeper field connects designing functionally to two other great human projects, each with its own great goals, each interwoven with and dependent on one another. A caution: knowledge and truth may tend to vary in the mirror of their intentionality.

From the Field; { From this Field... }

On this view: designers are situated in an intentional field, in the language and notation of that field. They are situated in their personal experience of designing and in the agency of the relationships they have constructed with the people of their projects. They are conditioned by the present and pressing culture of that place, time, named, addressed field. They are situated in the social process of interpreting and representing the differences and the imagined opportunities and possibilities of that field.

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{ In this field, this designer holds up his embodied mental guide, the abstracted model of designing that this paper is about. The model is derived out of his own experience with designing and the teaching of design. It is expressed in a vocabulary and notation that represents a highly compressed conversation. It tells a story of valuing and designing in terms that are condensed. Such desiccated meaning requires a social reconstruction. Condensed, compressed, compact... }

$$\frac{{}^{D}\left\{{}^{c,v}\, A_{to\ldots}\left\{\text{Intending}_{\ \text{toward}\ldots}\ /\ \text{Forming}^{\ \text{out of}\ldots}\right\}\ M_{e}\right\},}{m_{e}}$$

{ For wider conversations, just' add' water'. }

{ For richer conversations, heat' and' add' milk'. }

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Phase-dependence of Attention, Intention, Form & Meaning in an Intentional Field

Field Concepts	Phases ---> 1. Attentional	2. - 3. Intentional----->	<-----Formative	4. Evaluational
Attending to... **(Attention)**	Interest "called" to differences arising in intentional situations.	Interest in "what needs doing"; ways of thinking and working; and how to proceed.	Interest in re-ordering, re-integrating, re-composing, the expressiveness of materials and relationships, the new ideas, intentions and qualities that arise in formative work.	The waning of interest in... places. losing resolution The returning of interest in... Interest reignited by the experience of significant difference in places.
Intending toward... **(Intention)**	Probing and constructing shared understandings of intentional difference (issues in places); understanding and overcoming "intentional inertia." Shared narratives of "what needs doing."	Developing intentional narratives, intentional structures, constructing "Fans of Value" and "Fans of Intention," "goal arrays;" image mapping; "new metaphoric ladders" from here to there.	Discovering intentional relationships, correspondences and conflicts; exploring the formative potential of intentional orders, patterns and priorities. Discovering, developing, clarifying intentional understanding through iterative formative expressions.	Re-cognizing of intentions in experience; others are sensed, felt; many are reconstructed and transmuted through strong participation and interpretation; some are lost to other points of view or just lost.
Forming out of... **(Form)**	Reawakening of form in consciousness; critiquing of existing formative inadequacies in intentional situations; incipient form.	"Ends in view;" "vivid presence;" new metaphors for old; images of "better".; formative possibilities, options, choices..	Metaphoric and factual re-descriptions, compositions, conjunctions; metaphoric mappings; reweaving, cultivating and crafting of new formative expressions; composing, patterning, expressing and embedding valuing priorities. Integrating the new with the old;	Form: apt, fresh, poetic and just, enchants, connects, satisfies, succeeds (for a time) and then vanishes into intentional experience like well-worn metaphors.
Meaning in experience... **(Meaning$_e$)**	Growing dissatisfaction, desire for change; interest in new possibilities; worry/ confidence that change will be better than...	Engagement in purposeful, intentional work; planning a course, a method; a setting forth; commitment to designing: processes, people, schedules, and to change.	Formative expressions evaluated as significant, satisfying, and successful. Intentions used as criteria for evaluation. Evaluation generates additional recycling until resolution.	Meaning is constructed through personal and social filters. Meaning is ignited, felt, perceived, appreciated, re-cognized. The measures of meaning wane as interests and formative expressions wane.