Any Person, Any Study: A Different Kind of Theory of Everything (ToE)

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Abstract: What physicists call "Theories of Everything" (ToE) are not really "Theories of Everything." Instead, they are "Theories of Everything from the perspective of, and for the uses defined as important by, physicists." String Theory or M-Theory, are theories that attempt to unify the fundamental physical forces and can be applied within the discipline of physics and related disciplines, but are not applicable across all disciplines. In other words, they are not theories of *consilience* that lead to the "unity of all knowledge" as outlined by E.O. Wilson. Estimates report that there are 2,400 formal academic disciplines or "fields of study" and there are countless more disciplines if one accounts for informal fields of study and practice such as yoga, skateboarding, quilting, or firefighting. While supportive and sympathetic of the pursuit of such theories in physics, this paper suggests that we must distinguish between a truly universal Theory of Everything (ToE) and a *physics*-Theory-of-Everything (P-ToE). While it is factual that the laws of physics underlie everything, it is misnomer to say that a P-ToE is universal because it cannot be *applied* to everything. As just three examples among a significant majority, neither a quilter, nor economist, nor a sociologist *could* or *would* reasonably use a valid P-ToE to understand or navigate their work (even though, technically speaking, the physical laws and fundamental forces are at play in their work). Thus, its seems that the physics Theory of Everything oversteps the definition of a ToE and is imprecise. More clearly distinguishing between ToE and P-ToE allows for deeper discussion and exploration of universal ToEs, which can be reasonably applied to everything across all disciplines, both academic and non-academic, formal and informal. This paper outlines the logic for an empirically supported universal ToE called DSRP Theory that is useful and applicable to any person in any study and moves us closer to *consilience*.

Keywords: DSRP | systems thinking | theory of everything | ToE | interdisciplinary | structural predictions | consilience

Contents

1. A New Kind of ToE

Physicists have talked about a theory of everything (ToE) for a long time and they have proposed several (i.e., String Theory and M-Theory) (1). I think "everything" is a misnomer, because they mean "everything that physicists consider," "all of the physical laws underlying the universe," or "a final theory, ultimate theory, or master theory [that] is a hypothetical single, all-encompassing, coherent theoretical framework of physics that fully explains and links together all physical aspects of the universe (2)." And while that is impressive, needed, and laudable, it is not *everything*. A Theory of Everything should be used by everyone for anything. It is not a theory that is applicable across all disciplines (both formal and informal,

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academic and non-academic). In other words, they are not theories of *consilience* that lead to the "unity of all knowledge(3)" as outlined by E.O. Wilson. Certainly not a *consilience* across the 2,400 formal academic disciplines or "fields of study"(4) and countless more disciplines if one accounts for informal fields of study and practice such as yoga, skateboarding, quilting, or firefighting. String Theory and M-Theory are not TOEs that will move the fields of skateboarding or quilting or truck driving or farming (which are all physical phenomena) forward. Indeed, *everything* is physical—at least in the material epistemological stance. So, while the hypothetical universal laws of physics govern all physical matter (therefore including quilting etc.) they are not practically *applicable* to everything. A ToE should apply to *everything*.

We clarify by adding the modifier physics (P) to ToE to create P-ToE to refer to things like String Theory and M-Theory. A ToE should be applicable to everything, not just the things of physics or the the particular ways that physicists look at the universe, but everything. Kurt Lewin wrote in 1952, "*There is nothing more practical than a good theory.*" In reality, theory is not divorced from practice. A theory is our best candidate mental model for how the real-world works. And, knowing how the real world works is the most practical thing one can imagine.

Thus, a ToE should not only *apply* to *everything*, it should also be *useful* to *everyone*. A quilter, a skateboard, a physicist, a chemist, biologist, cognitive scientist, psychologist, sociologist, computer scientist, economist, geologist, astronomer, and to business leaders and policy wonks, auto-mechanics and quantum mechanics should all find a ToE equally useful to their trade. It must bridge both the material-physical domains as well as the material-conceptual domains. It should therefore be not only a theory of physical things but also a theory of information, concepts, ideas. It should be a theory that bridges theory and practice and is used by all to understand and do all things. Because, after all, *everything* should mean, *everything*.

2. A is everything because A can be anything

When we assign something a letter such as A, B, or C or X, Y, or Z it means that the value of that thing can be *variable*. It could be a number, or it could be a person, place or thing. Below, we will use the variable A to mean any thing. In other words, A could be: a number, a letter, a word, phrase or whole book; it could be a person, place or thing; it could be a button on a shirt, a cup of coffee, a restaurant, the Revolutionary War, a quilt, an idea, a ball bearing, or a crisis.

We propose a ToE called *DSRP Theory* that is supported by a growing body of multidisciplinary empirical research (5). The claims we are making are ambitious and are not made lightly, because when we say "everything" we mean *everything*. What we detail below is how an identity forms in the "material world" and in the "conceptual world," in mind and nature. We detail not only how an individual identity forms (exists) but also how it relates to other identities, how it self-organizes with these other identities, and how these organizations, relations, and even the identities themselves "shape-shift" with a shift in perspective. These are universal and unavoidable processes that apply to the formation of all things across mind and nature. In order to simplify an infinite list of possible things, the letter A represents *everything*. A represents *anything*.

3. A Requires ¬A

For example, any chunk of information or thing can be generically called, "A."

$$\mathbf{A} \qquad [1]$$

A is the "*identity*" because it is existentially A such that mathematically speaking $A = A$ or linguistically speaking "A ***is*** A" (the term *is* comes from the verb *to be*, or existential). Likewise—as an "identity"— "A" can be thought of as the label or "ID" given to some concept, article, object, or thing. So A is a structure called identity (i) and it is in the position shown below to make notational space* for other structures that will be added to A:

$$^{i}\mathbf{A} \qquad [2]$$

Now, the existence of an identity A *a priori* **requires** the existence of $\neg A$. So, this negative-identity of A is given the structural name, "*other*" (o). This is the other because it is not-A—that is, it is the other information, concept, or thing in the space of A that makes it possible to distinguish A from its surroundings.

$$^{i}\mathbf{A} \qquad _{o}\neg\mathbf{A} \qquad [3]$$

4. A Requires D^{i}_{o}

Because the existence of A necessitates the existence of $\neg A$, and vice versa, the two are *co-implying* one another.

*The notation used in this formula is non-conventional because pre/post, sub/super, and limit variables are used. This break with convention is for clarity of visual explanation.

In other words, the existence of A *implies* the existence of $\neg A$ and vice versa. The same thing is true about the underlying structures *identity* (i) and *other* (o)—they too are *co-implying*. So, if we were to find an *identity* of any kind, we could reasonably bet that there was an *other* to be found somewhere. Alternatively, if we discovered an *other*, we could assume that an *identity* was lurking somewhere nearby. In fact, it is these two structural elements—*identity* and *other*— that make up a *Distinction* (D). This means that any time we distinguish any information, concept, or thing (say, A) from any other information, concept, or thing, we are *predictably* creating an identity-other structure. That means that in order to distinguish: `A` or any other letter; `32.5` or any other number; `dog` or any other word; any information or concept; any object or thing; in order to distinguish, see, feel, smell, taste, recognize, or ask for a `cup of coffee` we must distinguish between the `cup of coffee` and all the other things that a `cup of coffee` is not. Even if we are unaware of these cognitive machinations, they are occurring. They are predictable, and we will revisit later why this is so critically important.

5. A Requires R_r^a

In order to identify a `cup of coffee` we must distinguish between the identity and the other—which means that a co-implying relationship exists between *identity* and *other* (or in our case, between A and $\neg A$).

$$^{i}\mathbf{A} \rightleftarrows {}_{o}\neg\mathbf{A} \quad [4]$$

This Relationship (R) has some important structural properties. A implies $\neg A$ and vice versa which means that the existence of A has an effect on the existence of $\neg A$ and vice versa. This means that A and $\neg A$ are in a mutually reinforcing relationship where the *action* (a) of once begets the *reaction* (r) of another, and vice versa.

$$^{i}\mathbf{A} \overset{r\quad a}{\underset{a\quad r}{\rightleftarrows}} {}_{o}\neg\mathbf{A} \quad [5]$$

This can be somewhat "meta" so consider two examples: 1) we know—due to Newton's Third Law—that "every action has an equal and opposite reaction." What this looks like in pragmatic terms is best understood by the example in Figure 1 of two skateboarders.

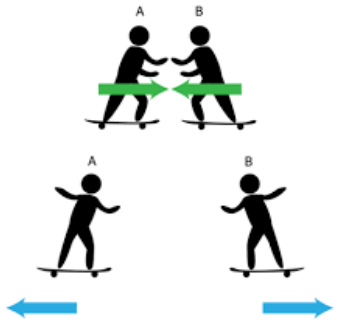

Fig. 1. When two people on skateboards "push" on one another (action) they will move in the opposite direction (reaction).

This reasonably covers all physical objects. But what about conceptual objects? Our second example covers these and it has to do with a relatively well known idea called "psychological priming." Priming occurs by exposing a person to one thing or idea which in turn effects subsequent ideas. When two ideas (concepts) appear in the same thought, they have a co-priming effect. In Figure 2, illustrates this through an example using the idea `coat`.

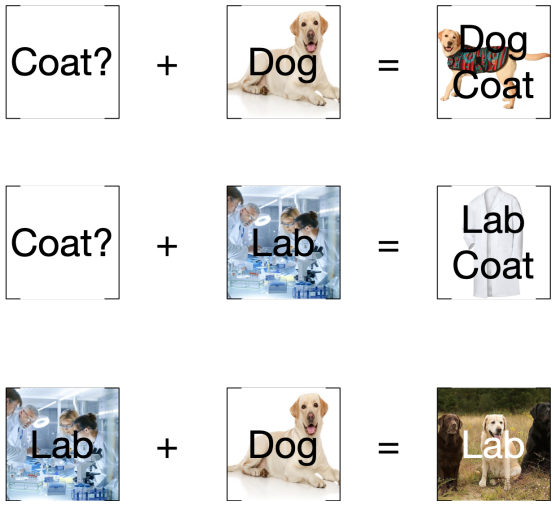

Fig. 2. When sharing the same space, concepts are like coupled oscillators, each affecting and being affected by the other.

When the concept of `coat` interacts with the concept of `dog` a new *portmanteau*-concept `dog coat` is created. When our concept of `coat` interacts with our concept of `lab` we get a new *portmanteau*-concept `lab coat`. When

we interact our concept of `lab` with our concept of `dog` we get a new *portmanteau*-concept `Labrador retriever`. Similar results occur when we do the same kind of interactions using a Google Image Search. Figure 3 shows the image results for the searches `coat dog`, `coat lab`, and `dog lab`, respectively.

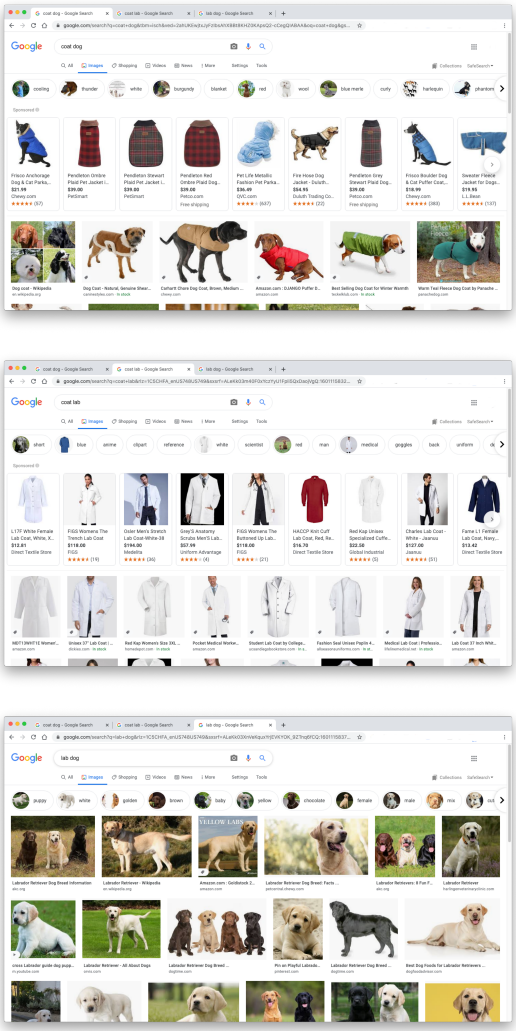

Fig. 3. When we search two words in Google, the results we see represent the action-reaction Relationship between them.

This is quite remarkable, as it started simply by stating that A exists (where A could be any concept or thing). We now see that for the identity A to exist, an other $(\neg A)$ must also exist. We also see that A has an A-like action on and reaction to $(\neg A)$, and vice versa. In other words, A and $(\neg A)$ very quickly influence each other to "get in sync" with each other to form a Distinction (D) Thus, in order for A to exist an identity-other Distinction (D^i_o) must exist but also—and remarkably so—and action-reaction Relationship (R^a_r) must also, predictably, exist.

6. A Requires S^p_w

It may seem somewhat surprising that for something as simple as A to be conceptualized, one also needs to process (consciously or subconsciously) so may other structural machinations. It doesn't end there. The structures that are required thus far, show that in order to think A an identity-other Distinction (D^i_o) and an action-reaction Relationship (R^a_r) are both made. In so doing, another necessary structure: a part-whole System (S^p_w) is created. The simplest system of any kind can be defined at *two things related*. Therefore, in order to think A we have to relate two things (A and $\neg A$). This makes A and $\neg A$ *and* the action-reaction Relationship between them (let's call that Relationship $\overline{A\neg A}$ *parts* of the *whole* that we can call the System $S\{A, \neg A\}$). This means that a few more structural variables can predictably be added to our formula for A. Specifically that A and $\neg A$ are parts (p) of $S\{A, \neg A\}$[†]:

$$ {}_i{}^{p}\mathbf{A} \;\; \begin{matrix} a & r \\ r & a \end{matrix} \;\; {}_o{}^{p}\neg\mathbf{A} \qquad [6] $$

7. A Requires P^ρ_v

The formula thus far, shows that $\neg A$ has been defined in terms of A. In other words, $\neg A$ is some other concept or thing that got shoehorned into an A-like existence or A-like terms when we defined it. It even took on the attributes of A but in a negated form (i.e., it used the same letter as an ID). Take, as an example, the concept of `theism` (belief in God) and `atheism` (belief that there is no God). In this case `atheism` uses the prefix *a-* which means *not* or negation (¬). But George Lakoff asserts that we could have otherwise labelled the negation positively such that `atheists` would be called `brights` the negation of which would be `not-brights` or `theists`(6). Likewise, $\neg A$ exists. For example, $\neg A$ could be called its own unique and different name such as B. And in so doing a number of things occur. First, we see that when B replaces $\neg A$ it

[†] It should be noted that the same cognitive machinations that existed for A (which can be any thing) also occur for $S\{A, \neg A\}$. This means that the existence of $S\{A, \neg A\}$ implies the existence of $\neg S\{A, \neg A\}$.

has its own identity. It remains structurally the *other* (o) to A, but it also has an *identity* (i) of its own. This in turn makes A the *other* (o)—or $\neg B$— to B.

$$\overset{i}{o}\overset{p}{\mathbf{A}} \overset{a \quad r}{\underset{r \quad a}{\rightleftarrows}} \overset{i}{o}\overset{p}{\mathbf{B}} \qquad [7]$$

This means that the following three expressions are different versions of the same thing.

$$\overset{i}{o}\overset{p}{\mathbf{A}} \overset{a \quad r}{\underset{r \quad a}{\rightleftarrows}} \overset{i}{o}\overset{p}{\mathbf{B}} \qquad [8]$$

$$\overset{i}{o}\overset{p}{\mathbf{A}} \overset{a \quad r}{\underset{r \quad a}{\rightleftarrows}} \overset{i}{o}\overset{p}{\neg\mathbf{A}} \qquad [9]$$

$$\overset{i}{o}\overset{p}{\neg\mathbf{B}} \overset{a \quad r}{\underset{r \quad a}{\rightleftarrows}} \overset{i}{o}\overset{p}{\mathbf{B}} \qquad [10]$$

In 8 the identities A and B are expressed. Whereas, in 9, the expression is entirely in terms of A or *from the perspective of* A and in 10 the expression is entirely in terms of B or *from the perspective of* B. This means that two more structural predictions are added to the cognitive machinations required to thing A: *point-view Perspectives* P_v^ρ or *Perspectives* (P) made up of a *point* (ρ) and a *view* (v). In other words, from the point of view of A (A_ρ), B is $\neg A$ and from the point of view of B (B_ρ), A is $\neg B$. This means that both A and B are points (ρ) and views (V).

$$\overset{i}{o}\overset{p}{\mathbf{A}}\overset{\rho}{v} \overset{a \quad r}{\underset{r \quad a}{\rightleftarrows}} \overset{i}{o}\overset{p}{\mathbf{B}}\overset{\rho}{v} \qquad [11]$$

8. What is A? It depends what *is* is...

The identity of A (or B or any other concept or thing) is far more complex than initially thought. In fact, the identity of A includes whatever follows from the statement "A ***is***..." which also includes any statement of the form "A ***is*** not...". For example:

Table 1. A is all of these things...

A ***is***	A
A ***is***	not-B (according to B)
A ***is***	not $\neg A$
A ***is***	related to B
A ***is***	acting upon B
A ***is***	reacting to B
A ***is***	part of $S\{A, \neg A\}$.
A ***is***	viewing B
A ***is***	being viewed by B
A ***is***	a whole comprised of [the parts in this list]

What Table 1 illustrates is that even in this simplest of cases where A simply exists, it is not only a part (p) of the whole $S\{A, \neg A\}$, it is also a whole (w) in and of itself comprised of multiple conceptual or material parts. So the structural variables in our expression of the identity A is completed by adding the structural element, whole (w) in 12:

$$\overset{i}{o}\overset{p}{\underset{w}{\mathbf{A}}}\overset{\rho}{v} \overset{a \quad r}{\underset{r \quad a}{\rightleftarrows}} \overset{i}{o}\overset{p}{\underset{w}{\mathbf{B}}}\overset{\rho}{v} \qquad [12]$$

Table 1 also illustrates that the simple act of thinking A or perceiving the object A is not so simple. Instead, it *inheres* $DSRP$ structure, *a priori*. These structures are also evident in research (5). These 4 $DSRP$ structures and their 8 elements provide a *predictable* set of structural properties required for any concept or thing not to mention complex of concepts and/or things. Inasmuch, $DSRP$ structures allow for structural predictions, which provides the basis for cognition, metacognition, and structural insight.

Having added this final structural element, the expression looks as follows in 13:

$$\overset{i}{o}\overset{p}{\underset{w}{\mathbf{A}}}\overset{\rho}{v} \overset{a \quad r}{\underset{r \quad a}{\rightleftarrows}} \overset{i}{o}\overset{p}{\underset{w}{\mathbf{B}}}\overset{\rho}{v} \qquad [13]$$

Each of the 4 $DSRP$ structural patterns and 8 co-implying elements are shown in Table 2:

Table 2. Universal Structures of A

Structural Patterns	Co-implying Elements		
Distinctions (D)	identity (i)	↔	other (o)
Systems (S)	part (p)	↔	whole (w)
Relationships (R)	action (a)	↔	reaction (r)
Perspectives (P)	point (ρ)	↔	view (v)

9. Rs and RDSs

Thus far, the minimal concept of A has been explored in the very simplest of cases involving the identification of A. But, most thinking involves more operations and significantly more complexity than simply defining an identity such as A. One might think of these structural machinations as being "atomic" in nature in the sense that they are infinitesimally small or "micro." But these same structural properties serve as simple rules that underlie the complexities of far more complex systems of meaning making which we might think of not merely as "atoms of thought" but as increasingly complex "molecules" or "compounds" of thought. In so doing, the relationship, for example, between A and B may take on more complexity

and exist as an identity in and of itself, thereby inhering all of the structural properties of any identity (those discussed thus far). Thus, the relationship between A and B may be denoted by C, which is its own identity with all the sundry structural properties that we saw in A or B.

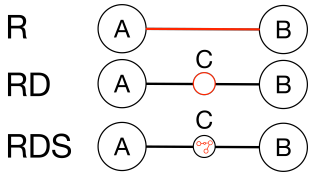

Fig. 4. R, RD, and RDS Barbells.

This means that all Relationships have the potential to be Distinguished, Systematized or Perspectival, in the same way that any identity does. These micro-atomic structures—basal to the simplest of thoughts—are also universal across the most complex cognition. Examples of RDSs (Figure 4) are everywhere around us in nature: the myriad chemicals, electrical signals, and processes that occur at a synapse; a supply chain; a chain of a bicycle that relates the chain ring to the rear cassette; biochemistry, the relationship between biology and chemistry; hinges and joinery of all kinds, etc. In other words, any physical relationship, because whatever is relating the two items is material. RDSs occur in the mind as well such as how the concepts `husband` and `wife` are related by a third concept `marriage` which can in turn be broken into conceptual parts (e.g., `property rights`, `love`, `vows`, `children`, etc.) according to different perspectives.

What we have thus far described (in the expression in 12) is a relatively simple structure called a "barbell" (due to its visual similarity to a barbell ⊣⊢). If we think of any sufficiently complex system in mind or nature as a network, we can see that—no matter how complex the network gets—it is made up of these barbell structures. Regardless of the network its complexity comes from the number and complexity of its $DSRP$ barbells. Considering that both the related nodes in the barbell as well as the relationship-node has the complexity of the $DSRP$ structures outlined above, the network is simply multiples of this barbell structure, as in the case for *all* of the relationships in the complex network in Figure 5, where every relationship forms a barbell between two nodes, each barbell with similar potential structural complexity.

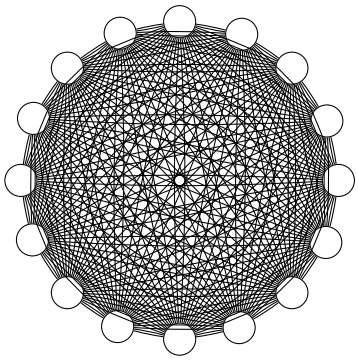

Fig. 5. Regardless of the complexity of a network, it is comprised of "barbell structures" with all the structural properties of the one described herein.

10. DSRP provide the Simple Rules Governing the Underlying Structure of All Phenomena

Thus, the simple rules of any simple or sufficiently complex system in mind or in nature or both are provided by $DSRP$. In order to visually see this we can use an example of these simple rules in the network diagrams in Figures 6 through 10.

$DSRP$ Theory is fractal, self-similar, symmetrical, modular, recombinant, and recursive in that the same structures occur and reoccur across scale. And, $DSRP$ provide a simple rule set for the structural complexity and evolution of any network. For example, the D^i_o Rule allows for identities (i) to be distinguished from others (o) in Figure 6.

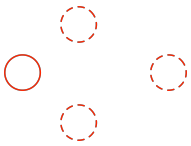

Fig. 6. the D^i_o Rule allows for identities (i) to be distinguished from others (o).

R^a_r Rule allows identities to be related (or not related[‡]) as in Figure 7.

[‡] the negation of a relationship made possible by the other (o) variable of D such that related and not-related can exist

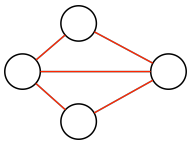

Fig. 7. R_r^a Rule allows identities to be related (not shown are the action (a) and reaction (r) variables generating directionality of the edge).

Combining D_o^i and R_r^a Rules, any of these relationships can be made into an identity as shown in Figure 8.

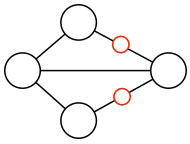

Fig. 8. Rs can become RDs.

Adding and combining S_w^p Rule, any of these identities can be part of a larger whole (in this case the network) but can also be a whole made up of parts as shown in Figure 9. Note that the same is true for the **r**elational-**d**istinctions (RDs) such that they become **r**elational-**d**istinctions that have become **s**ystematized RDSs.

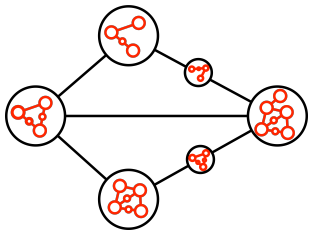

Fig. 9. A network showing the S_w^p and R_r^a Rules applied at level 2 (or level n) illustrating how an identity (node) can be a part (p) or a whole (w) and said parts can be related.

Note that Figure 9 illustrates that at level-2 (or level-n) the same simple structural rules can take place such that identities can be systematized to reveal more parts of parts of parts as well as the relationships among those parts and relationships can be further distinguished and systematized.

Finally, the P_v^ρ Rule (combined with the other simple rules) means that any node can be a perspectival point (ρ) with its own perception of a perspectival view (v) of some or all of the network, as shown in Figure 10 (**a** and **c**). Any individual node or system of nodes can be a point-of-view (ρ) shown in both (**b**) where the relationship is a point of view on the rest of the network and (**d**) where a complex barbell including all of its parts and relationships is a single point-of-view (ρ) on the rest of the network.

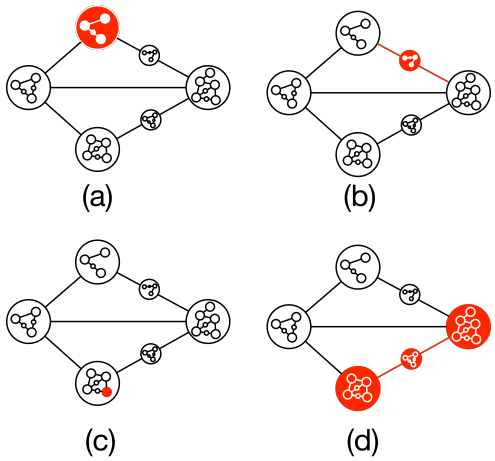

Fig. 10. P_v^ρ Rule showing the point (ρ) [in red] for (a) 1 top-level node, (b) a relational node, (c) an n-level node, and (d) a collection of nodes, and their respective views (v) [in black].

11. Conclusion

Regardless of the discipline one comes from or specializes in, a deep-level of expertise in any domain requires one to make increasingly refined *distinctions*, to determine and understand the *relationships* that exist between elements and to organize those elements into coherent and meaningful *systems*, as well as to see how a simple shift in *perspective* can alter all of those distinctions, relationships and systems into an entirely different view. Whether you are a painter or a policy wonk, a farmer or a forensic scientist, a quilter or a quantum theorist, you'll need to differentiate things from one another, organize and relate them and look at them from different points of view (i.e., $DSRP$). Indeed, we might conclude that these $DSRP$ structures are just principles of good pragmatic advice, but in actuality they are atomic structures that play out as a fractal—born of the atomic-level but crossing the molecular and compound levels, from the simplest of structures to the most complex. $DSRP$ is a ToE (a theory of everything) that is relevant, applicable, and useful to any person from quantum mechanic to auto mechanic, making it a ToE for any person in any study.

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