

Stephen Pepper's World Hypotheses: Season 1, Episode 1

Welcome to the first episode of the Stephen Pepper thread. The focus of this post is *World Hypotheses*, Chapters 1-4. My reflections today are largely confined to definitional matters, but I also hope to set the stage for an examination (in my next post) of Pepper's "root metaphor" theory.

Perhaps the clearest path into Pepper's thought is to consider the place where most of us began our intellectual journey: **common sense**. For Pepper, common sense includes "the sorts of things we think of when we ordinarily read the papers...or the sort of things we see and hear and smell and feel as we walk along the street or in the country..." (p. 39).

Pepper considers common sense as a loose synonym for Plato's notion of "opinion" (p. 39). I'm also reminded of the "natural attitude" described by phenomenologists. For Pepper, the world of common sense can be characterized as "secure" in the sense that it is "never lacking" – i.e., *we can always fall back on it*:

- "No cognition can sink lower than common sense, for when we completely give up trying to know anything, then is precisely when we know things in the common-sense way. In that lies the security of common sense" (p. 43).

But, in spite of its security, common sense is also "cognitively irritable":

- "The materials of common sense are changing, unchanging, contradictory, vague, rigid, muddled, melodramatically clear, unorganized, rationalized, dogmatic, shrewdly dubious, recklessly dubious, piously felt, playfully enjoyed, and so forth. One may accept common sense and thoughtlessly roam in its pasture, but if one looks up and tries to take it in, it is like a fantastic dream. To the serious cognizer it is like a bad dream. For the serious cognizer feels responsible to fact and principle, and common sense is utterly irresponsible" (p. 43)
- Common sense is "unreliable, irresponsible, and, in a word, irritable" (p. 44).

Of course, the way of life dubbed "common sense" can always be subjected to criticism, in which case ordinary (unrefined) experience becomes "refined knowledge" or "critical cognition" (p. 47). How do we achieve this transformation?

- For Pepper, "**all critical evidence becomes critical only as a result of the addition of corroborative evidence**. The work of legitimate criticism in cognition, then, is corroboration" (p. 47, emphasis added)

Corroboration can take one of two forms:

- **1) Multiplicative corroboration (data)**: i.e., The agreement of "man with man." (p. 47).
 - An obvious example of this is the notion of interjudge (or interrater) reliability, as understood by psychometricians
 - As discussed below, the notion of multiplicative corroboration has an important role to play in any scientific enterprise.
- **2) Structural corroboration (danda)**: i.e., The agreement of "fact with fact" (p. 47)
 - An obvious example of this is the "principle of converging evidence" in science.
 - Pepper's example: I might evaluate whether a chair is strong enough to bear my weight by considering (a) the kind of wood with which it is made, (b) the reputation of the company that put together the chair, and (c) the fact that the chair shows evidence of wear (suggesting that "many people had successfully sat in it"). It is by "putting all this evidence together" that I "feel justified in believe that the chair is a strong chair" (p. 49). Notice here that we are taking into account different *kinds* of facts (e.g., wood quality, company reputation) that we deem relevant to the same question (chair strength).

- Insofar as structural corroboration is concerned with how a multiplicity of facts “hang together”, the quest for such corroboration will inevitably pull us in the direction of theory. As I entertain structural hypotheses, I’m not simply interested in *this* or *that* set of data. Rather, I’m interested in how the data I observe *coheres* with other things we think we know. The nature of this coherence is a *theoretical* puzzle.

On my reading, multiplicative corroboration (or *data* collection) is synonymous with the notion of *objectivity* in science. It reflects the idea that what we see would be described *in precisely the same way* by anyone else (given the appropriate level of training):

- In Pepper’s words, “the search for multiplicative corroboration is the effort on the part of a datum to confirm its claim to purity. It is as though a datum turned from one observer to another and asked, Am I not just what I said I was?...Are there not some data that never vary, no matter who the observer and, if possible, no matter what his point of view? If such there are, these are ideal data” (p. 52).

Pepper acknowledges that “absolutely ideal data are probably not available” (p. 52). Nevertheless, “close approximations to them have been developed in the course of cognitive history” (p. 52). Specifically, Pepper highlights “two genres of refined data”:

- **Refined empirical data:** “pointer readings and correlations among pointer readings” (p. 52)
- **Refined logical data:** “evidence for the validity of logical and mathematical transitions and for those organizations of such transitions which are called logical and mathematic systems” (p. 57).

Pepper identifies “positivism” (as a philosophy of science) with the quest for highly refined empirical and logical data. But there are several threats to the program of the dogmatic positivist:

- The scarcity of refined data
 - “The refined empirical data presently at our disposal cover a very small field of nature” (p. 63)
 - “Outside of the fields of physics and chemistry, refined data play a secondary role and are rarely capable of expression in the form of a deductive mathematical system” (p. 63)
- The metaphysical poverty of refined data
 - “In order to set up refined data as the sole norm of evidence, it is necessary to *deny* the claims of danda, derived from various structural world theories, as alternative norms of evidence” (pp. 67, 69)
 - In other words, the dogmatic positivist intends to let the *data speak for themselves*, free of the influence of danda (which we might consider as a facet of a metaphysical system).
 - But, if we really wish to drive such danda out of our refined cognition, “***multiplicative corroboration alone will not do this***, for it only establishes the data it establishes, and neither affirms nor denies the claims of any facts other than those, like pointer readings, by which man corroborates man” (p. 69, emphasis added)

In light of these issues, Pepper submits that “the study of danda and structural corroboration seems...to be cognitively justified” (p. 70). What, though, does it mean to make structural claims (of any sort)?

- For starters, structural hypotheses necessarily make statements concerning “the structure of the world” (p. 74) – i.e., how things “hang together”.
- But – and this is quite a striking claim – “**structural corroboration does not stop until it reaches unlimited scope**” (p. 77, emphasis added)
 - Why?
 - Because: “as long as there are outlying facts which might not corroborate the facts already organized by the structural hypothesis, so long will the reliability of that hypothesis be questionable” (p. 77).

- An “ideal structural hypothesis”, then, “is one that all facts will corroborate, a hypothesis of unlimited scope” (p. 77)
- “Such a hypothesis is a world hypothesis” (p. 77, emphasis added).

Comments regarding “world hypotheses”:

- They necessarily include *data* [and not just *danda*]
 - It “draws data within its scope as well as everything else” (p. 78)
 - “It, therefore, does not reject but acquires the cognitive force of multiplicative corroboration as well as that of structural corroboration” (pp. 78-79)
 - “Cognition needs both types of refinement [data and danda] as much as a bird needs two wings” (p. 79)
- Nevertheless, in a world hypothesis, *data are ultimately subordinated to danda*.
 - As a rough approximation of what Pepper is driving at, we might consider a world hypothesis as a framework that allows us to *render data meaningful*.
 - Or, to employ Gregg's language: “*all factual/empirical claims are understood from the view of a metaphysical/conceptual system. That is to make sense out of facts one must have a scheme of some sort; some sort of framework of concepts and categories. (To give a concrete example, to SEE facts about a chess game, one must have a framework of knowledge about chess. A novice looks at a game between masters and basically sees nothing).*”
- In a world hypothesis, evidence and interpretation are “merged” (p. 79).
 - “...it is impossible to say where pure fact ends and interpretation of fact begins” (p. 79).

As an example of the difficulty of identifying pure facts in the field of psychology, consider the standard textbook definition of the discipline: *Psychology is the scientific study of behavior and mental processes*.

- Ignoring (for the sake of simplification) the notion of “mental processes”, we can certainly agree that “behavior” falls within the psychologist’s scope of inquiry.
- But how – in practice – do we identify a *unit* of behavior? When does a given behavior begin? When does it end? And is it really meaningful to speak of “behavior” in the abstract, or is the concept always qualified in some way? After all, a personality psychologist never studies “behavior” *per se*, but *aggressive* behavior, *conscientious* behavior, etc. In other words, personality psychologists study *patterns* of behavior – and the identification of such patterns is inevitably theory-driven.

On page 68, Pepper offers a figure (or diagram) that he dubs “**A Tree of Knowledge**”:

- At the bottom of the figure is a box labelled “Roots of knowledge” (and it includes “dubitanda”, Pepper’s rather odd term for “common sense facts”).
- The tree (originating out of the box) has *two major trunks* (which makes for a rather strange-looking tree!):
 - Trunk #1: Data – Beginning with “rough data” and then branching into “scientific data” and “logical data”
 - Trunk #2: Danda – Beginning with “rough danda” and then branching into “formistic danda”, “mechanistic danda”, “contextual danda”, and “organismic danda”
- Above the six branches of data and danda sits the phrase: “fruits of knowledge”

Stephen Pepper's World Hypotheses: Season 1, Episode 2

- A world hypothesis is a hypothesis about “the world itself” (p. 1).
- But how do we generate world hypotheses?
 - Pepper offers his “root metaphor theory” as “a **hypothesis** concerning the origins of world theories” (p. 84; emphasis added)
 - The fact that this is just a *hypothesis* implies that there may be *other ways* to generate theories about the world. The value of studying world hypotheses (of whatever sort) is not contingent on the truth of root metaphor theory.
 - Pepper observes that root metaphor theory “is itself a structural hypothesis” that must ultimately be supported by “an adequate world theory”
 - But Pepper also acknowledges that ***we are not yet in possession of a perfect world theory***:
 - “Ideally, we should pass directly from dubitanda and data to fully adequate danda which would exhibit all things cognitively in their proper order. Unfortunately, danda are not at present nearly adequate” (p. 86).
 - We are entitled to ask: Why do our world theories fall short of our cognitive ideal?
 - Pepper’s root metaphor theory is an effort explain *how* we have developed our less-than-perfect world hypotheses.
 - The root metaphor theory is “in the nature of a **rough dandum**” (p. 86, emphasis added).
 - It “definitely does not legislate over world theories except so far as these voluntarily accept and refine it” (p. 86).
 - “On the contrary, an adequate world theory by virtue of its refinement legislates over this theory or any like it. There is no reliable cognitive appeal beyond an adequate world theory. But when world theories show themselves to be inadequate we accept what makeshifts we can find. This root-metaphor theory is such a makeshift. Its purpose is to squeeze out all the cognitive values that can found in the world theories we have and to supply a receptacle in which their juices may be collected, so that they will not dry up from dogmatism, or be wasted over the ground through the indiscriminate pecking of marauding birds” (pp. 86-87).

Root Metaphor Theory

- How do we manage to get from common sense to a world hypothesis? [or from dubitanda to relatively refined danda?]
- Pepper suggests that we look out into the world of common sense and grab onto something. In effect, I find myself saying: *Perhaps this is the key to the universe!*
 - Here’s how Pepper puts the matter:
 - “A man desiring to understand the world looks about for a clue to its comprehension. He pitches upon some area of common sense fact and tries if he cannot understand other areas in terms of this one. The original area becomes then **his basic analogy or root metaphor**” (p. 91, emphasis added)
 - This person then “describes as best he can the characteristics of this area, or, if you will, discriminates its structure. A list of its structural characteristics becomes his basic concepts of explanation and description. We call them a set of **categories**” (p. 91, emphasis added)
 - “In terms of these categories he proceeds to study all other areas of fact whether uncriticized or previously criticized. He undertakes to interpret all facts in terms of these categories” (p. 91)
 - “As a result of the impact of these other facts upon his categories, he may qualify and readjust the categories...” (p. 91).
 - “a great deal of development and refinement is required if they are to prove adequate for a hypothesis of unlimited scope” (p. 91).

- “Some root metaphors prove more fertile than others, have greater powers of expansion and of adjustment. These survive in comparison with the others and generate relatively adequate world theories” (pp. 91-92).
- So, let’s try to build a world theory:
 - In the beginning, I adopted an unrefined natural attitude consonant with the spirit of my age.
 - One day, I experience (seemingly out of the blue) a love more profound than anything I could have ever imagined possible.
 - Fully cognizant of the fact that words can never do justice to my experience, I nevertheless tell my friends and relatives that I have finally achieved a state of true peace and harmony – a sense of oneness with a caring cosmos.
 - Perhaps this is the key that unlocks the secret of the universe!
 - According to Pepper, I have just become a mystic.
 - Root metaphor = Love
 - “This hypothesis states that this emotion is the substance of the universe, and that as far as we differentiate things, these are generated from this substance and are ultimately nothing but this substance” (p. 133).
 - Well, what’s wrong with this? [It sounds good to me!]
 - There’s nothing to be said against the mystical *experience* as such.
 - The mystic “need not be a metaphysician. He might have and enjoy his experience and make no cognitive claims for it beyond his having had it and enjoyed it” (p. 129)
 - But if mysticism is considered as a metaphysical hypothesis, it will ultimately leave us unsatisfied. Pepper cites mysticism as an example of a world hypothesis with inadequate scope. There are simply too many facts that the theory leaves behind (or interprets in a manner that is simply too crude for more refined cognitive tastes)
 - “The immediate temptation here is to deny outright the reality of all ‘facts’ except the one mystic Fact” (p. 131).
 - “So pain, misery, sorrow, sadness are unreal, as opposed to beatific qualities” (p. 134).
 - In addition, “pleasures, comforts, sensuous delights are false from lack of intensity” (p. 134).
 - Interestingly, Pepper dubs mysticism as an “emotional theory of truth” (p. 135).
 - “As *the* philosophy of unity and love, it is the most destructive of all world theories in cognition and finally destroys itself by the very intensity of its desire for unity and peace” (p. 127).
 - Ok, so much for mysticism.
 - I return to my stroll amongst the dubitanda. I take a trip to Hawaii and receive a text message telling me that there is a “ballistic missile threat inbound” and I should “seek cover immediately.” After thirty minutes of panic, I am relieved to learn it was a false alarm. [Incidentally, this twist in the narrative was inspired by the fact that my brother was recently vacationing in Hawaii and experienced the threat firsthand.]
 - So, as I recover from the ballistic missile threat, I start thinking about myself and how wonderful it is to be alive. I have goals, yet I also have the freedom to change my path in life. I have values, though I fully realize that they may well be crushed if I don’t do something to stand up for them.
 - Perhaps I’m the key to the universe! I don’t mean this in the sense that the universe should cater to my whims. Rather, perhaps my very mode of being-in-the-world illuminates the structure of the cosmos. I look out into the starry heavens and I have a sense that “we are not alone”. [As Tom Cruise once said in an interview, “are you really so arrogant as to believe we are alone in this universe?”] Better, as I reflect on the cosmos, I don’t simply contemplate creation. I also experience myself in relation to some sort of creative spirit – a divine “person” that somehow participates in my essence, or vice versa.
 - My truth is no longer *love* (which, I now recognize, was simply a positive experience *to be valued*).
 - Rather, *personhood as such* is the key to the universe.
 - I have become an animist.
 - Root Metaphor = The Person

- According to Pepper, “animism, as a metaphysical hypothesis, is the theory that takes common-sense man, the human being, the person, as its primitive root metaphor” (p. 120).
 - “This is the most appealing root metaphor that has ever been selected” (p. 120).
 - “This view of the world is the only one in which many feels completely at home” (p. 120).
 - I’m reminded here of the wonderful scene at the end of *Close Encounters*, where a bunch of kindhearted aliens arrive in a magnificent spaceship, befriend humanity, and invite Richard Dreyfus to fly away on what I like to call: “the secure base from outer space”.
- In its crudest forms, animism is difficult to sustain past childhood. But the root metaphor can be refined:
 - “The full maturity of an animistic world theory...occurs when the root metaphor of man’s personality has developed into in the richest conception of spirit, and when a luxuriant mythology has vividly populated the universe with explanatory spirits” (p. 123).
 - But: “under the pressure of criticism, mythological interpretations begin to be thinned down. At first they are treated as allegories, then as symbols of something higher and finer, and finally the notion of spirit itself is ephemeralized into an emotionally shaded word with vague direction outward or inward” (p. 124)
 - So, the original animistic categories eventually evolve [or devolve] into acceptable – but ultimately “empty” – abstractions (see pp. 124-126)
 - Significantly, these abstractions (e.g. the divine “source of all”) retain their appeal precisely by virtue of their “animistic source”.
 - “They would not be entertained for a moment if the source were cut off” (p. 126)
- Unlike mysticism, animism has no problem with scope. It doesn’t demean (or render *less than real*) any particular set of facts.
- The problem with animism, according to Pepper, is its inadequate precision.
 - “What is thunder? It is the angry voice of a great spirit...[Or] It is the stamping of the hoofs of the steeds of a great spirit...[Or] It may even be a spirit itself roaring in pursuit of some other spirit to devour.” (p. 122).
 - “[There] is nothing but the limits of poetic fancy to put a stop to such interpretations” (p. 122).
 - “These interpretations are all consonant with the categories of spirit....There is no one precise determination of thunder, nor is there any precise method for finding one, nor is there any hope that more factual observations will ever produce one through these categories” (p. 122).
 - “Since the categories lack determinateness, they are unable to control their interpretations, which multiply about the same fact and mutually contradict one another” (p. 127, from the concluding paragraph of the section)
 - If we are able to decide upon a specific interpretation, it is by virtue of “the authority of shaman, medicine man, and priest” (p. 123)
 - Pepper submits that “animism is the natural metaphysical support of authoritarianism” (p. 123)
- Note: For a consideration of animism in the context Gregg’s ToK framework, I recommend Leigh Shaffer’s (2008) article entitled: *Religion as a Large-Scale Justification System: Does the Justification Hypothesis Explain Animistic Attribution?* [The abstract is available here: <http://journals.sagepub.com/doi/abs/10.1177/0959354308097257?journalCode=tapa>]

Generalizations regarding the role played by root metaphors in the development of World Hypotheses:

- **Maxim I:** "A world hypothesis is determined by its root metaphor" (p. 96).
 - Pepper identifies four "relatively adequate" world theories and their corresponding "root metaphors"
 - World Hypothesis #1 = Formism; root metaphor = "similarity"
 - World Hypothesis #2 = Mechanism; root metaphor = "machine"
 - World Hypothesis #3 = Contextualism; root metaphor = "historical event"
 - World Hypothesis #4 = Organicism; root metaphor = "organism"
 - Pepper devotes a chapter to each of these world hypotheses (Chapters 8,9,10, & 11, respectively). So we will eventually have a chance to examine each of these hypotheses in considerable detail.
- **Maxim II:** "Each world hypothesis is autonomous" (p. 98)
 - **Corollary #1:** "It is illegitimate to disparage the factual interpretations of one world hypothesis in terms of the categories of another -- if both hypotheses are equally adequate" (p. 98)
 - "It follows that what are pure facts for one theory are highly interpreted evidence for another" (p. 100)
 - **Corollary #2:** "A world hypothesis does not have to accept data at their face value, or to exclude the acceptance of any other sort of evidence than data" (p. 101).
 - **Corollary #3:** "It is illegitimate to subject the results of structural refinement (world hypotheses) to the cognitive standards (or limitations) of multiplicative refinement" (p. 101).
 - "Data must be accepted as evidence to be accounted for in a world hypothesis, but a world hypothesis does not have to accept data at their face value, or to exclude acceptance of any other sort of evidence than data (p. 101).
 - **Corollary #4:** "It is illegitimate to subject the results of structural refinement to the assumptions of common sense" (p. 102).
 - **Corollary #5:** "It is convenient to employ common-sense concepts as bases for comparison for parallel fields of evidence among world theories" (p. 102)
 - In other words, we can clarify differences among world theories by considering how they might respectively deal with events that occur in the world of ordinary experience.
 - For example, consider the statement: "Joe has a good sense of humor." The notion of "humor" is part of our ordinary experience and thus falls within the scope of any comprehensive world theory. So, how would a mechanistic make sense of humor? How would a formist understand this concept? Etc.
 - Answering such questions helps us appreciate differences in how each world hypothesis interprets "the *same* common-sense fact" (p. 103, emphasis in original)
- **Maxim III:** "Eclecticism is confusing" (p. 104)
 - "If world hypotheses are autonomous, they are mutually exclusive. A mixture of them, therefore, can only be confusing".
 - For example, we might be tempted remedy the shortcomings of animism by somehow combining it with mysticism:
 - "Just fill in the empty spirit concept of an emaciated animism with the vivid indubitable mystic emotion, and each theory seems to revive" (p. 136).
 - But Pepper doesn't think that we can achieve a stable synthesis of mysticism and animism.
 - E.g., "the world of spirits still try to raise their Great Spirit upon the throne which mystic intuition occupies" (p. 136)
 - Thus, we now have a tension between (a) the infallibility implicit in animism (which was necessary to avoid endless proliferation of personalistic interpretations) and (b) the indubitability that lies at the core of mysticism (i.e., the very real experience of love).
 - Pepper observes that "historically the ecclesiastics and the mystics have never harmonized very well. Periodically each group has tried to clean the other out – and this may be taken as a typical lesson in eclecticism" (p. 136).

- It might be replied that we would have more luck if we tried to achieve a synthesis of relatively adequate world hypotheses. But Pepper doesn't think that's possible at the present time:
 - "While all sorts of things might happen to these diverse theories so far as abstract possibility is concerned, as a fact (in the best sense of fact we know) these four theories are just now irreconcilable. Any credible attempt to reconcile them turns out to be the judgment of one of the theories on the nature of the others" (p. 105-106)
- "**Maxim IV**: Concepts which have lost contact with their root metaphors are empty abstractions" (p. 113).
 - Interestingly, Pepper suggests that such "empty abstractions" are a likely consequence of the push toward eclecticism (which has no root metaphor of its own to help refine cognition).

A Conceptual Scheme for Comparing World Hypotheses:

- **Analytic vs. Synthetic World Hypotheses:**
 - **Analytic:** Formism, Mechanism – Basic facts include "elements" or "factors". Any apparent synthesis (e.g., my life conceived holistically) is merely derivative.
 - **Synthetic:** Organicism, Contextualism – Basic facts include "complexes" or "contexts". I'm reminded here of family systems theory, where certain formal "elements" (e.g., the personality traits of a single family member) might be considered as a function of contextual dynamics (and are thus derivative).
- **Dispersive vs. Integrative World Hypotheses**
 - **Dispersive Hypotheses:** Formism, contextualism – The facts are "loosely scattered about" and "are not necessarily determining one another to any considerable degree" (pp. 142-143).
 - Example: In a formist "trait psychology", Andrew's disagreeableness may be reflected in (a) a tendency to make snide comments about coworkers, and (b) a recent "road rage" incident. These two behaviors (a & b) don't really have much to do with each other, outside of the fact that they are presumably mediated by the notion of disagreeableness. Contrast this with the notion of a machine where every fact has its place in an integrative whole.
 - The chief problem associated with dispersive theories is inadequate precision. [What will *disagreeable Andrew* do next? Who knows. But whatever he chooses to do, we will be able to make sense of it via our categories]
 - **Integrative Hypotheses:** Mechanism, organicism
 - "For these two theories the world appears literally as a cosmos where facts occur in determinate order, and where, if enough were known, they could be predicted or at least described, as being necessarily just what they are to the minutest detail" (p. 143)
 - The chief problem associated with integrative theories is inadequate scope

Stephen Pepper's World Hypotheses: Season 1, Episode 3

Immanent Formism

- Root metaphor = Similarity
 - Simply put, multiple objects may seem similar to each other in at least one respect
 - Pepper's example: two sheets of yellow paper.
 - The shade of yellow may be so similar across the two sheets that we are not able to tell the difference.
 - With respect to objects of perception, we can make a distinction between two aspects:
 - **Particularity** – *This* piece of paper.
 - **Quality** – Its *yellowness*
 - In Pepper's example, "we perceive two particulars (sheets of paper) with one quality (yellow)" (p. 153).
 - *Particularity* and *quality* are logically distinct aspects of an object

- “There is nothing about a particular as a particular to restrain it from having any quality whatsoever” (p. 153)
- Sometimes it is meaningful to highlight **relations** among particulars (which can be distinguished from logically independent qualities)
 - For example, these two yellow papers are side by side. Yellow is the quality, “side-by-side-ness” is the relation.
- Since both quality and relation characterize a particular object, we can synthesize these two terms and simply refer to the **character** of the object (as distinct from its “particularness”)
- We are just about ready to document the basic categories of immanent formism. These categories are quite important, as they are the keys to interpreting everything else. Recall (from Episode #2):
 - On the grounds of the root metaphor, the metaphysician delineates a list of “structural characteristics” that become “his basic concepts of explanation and description. We call them a set of categories” (p. 91)
 - “In terms of these categories he proceeds to study all other areas of fact whether uncriticized or previously criticized. He undertakes to interpret all facts in terms of these categories” (p. 91)
- So, here are the **basic categories** of Immanent formism:
 - **1) Characters**
 - **2) Particulars**
 - **3) Participation** (which “is the tie between characters and particulars, p. 154).
 - e.g., this paper **participates** in yellowness; this computer **participates** in slowness.
- Pepper insists that *participation is not a relation* (in the sense defined above)
 - If it were a relation, it would be an aspect of character, and then we would only have Basic Categories #1 and #2 (characters and particulars, respectively), with no logical possibility of producing an object (which requires “participation” as a distinct third category).
 - Rather than using the term “relation” to speak of participation, we can speak instead of **ties**.
 - Consider: *this yellow sheet of paper*.
 - The paper is **tyed** to the character “yellowness”
 - But isn't this just a play with words (i.e., replacing “relation” with “ties” to sustain the autonomy of Basic Category #3 – i.e., “Participation”)?
 - Pepper: “Ties are relations which are not relations. This sounds very much like a self-contradiction, and seems to indicate a categorical inadequacy. I rather think it is. Nevertheless, the theory contains too many insights for us safely to neglect it, until a much better world theory comes in view” (pp. 155-156)
- On the grounds of our basic categories, we can develop other concepts. Fore example: **classes**
 - “A **class** is a collection of particulars which participate in one or more characters” (p. 159).
 - E.g., blue jays
 - A class “is itself neither a character, nor a particular, nor a participation...**It is simply the actual working of the three categories in the world**” (p. 162)
 - “We simply observe that a character or a group of characters normally participates in a number of different particulars” (p. 162).
 - “A class is, accordingly, a thoroughly real thing, but what is real is the functioning of the categories” (p. 162).
 - A **classification** is an organization of classes (e.g., from the more general to the less general)

It is possible to make a modest shift in our root metaphor and open up new conceptual possibilities. For example, instead of speaking of crude “similarity”, we might think of “the work of an artisan in making different objects on the same plan or for the same reason” (e.g., “a carpenter making beds”; p. 162) or “natural objects appearing or growing according to the same plan” (e.g., “oak trees”; p. 162). Similarity remains the animating metaphor, but these ideas allow for considerable enrichment of our world hypothesis. Immanent formism gives way to...

Transcendent Formism

- Categories
 - **1) Norms** (which parallel “characters”)
 - **2) Matter** for the exemplification of norms (which parallel “particulars”)
 - **3) The principle of exemplification** which materializes the norms (which parallels “participation”)
- So, what’s the difference between a character (immanent formism) and a norm (transcendent formism)?
 - “A norm is a complex set of characters” (p. 164).
- Significantly, a norm need not ever actually *appear*.
 - A *norm* is not a *class* (which is a collection of actually observed objects)
 - Indeed, we might not ever observe a norm.
 - “The norm of the oak is rarely or never fully present in any particular oak. Particular oaks merely approximate the norm” (p. 164).
- “Norms seem to be used or presupposed in much of the basic work of empirical scientists” (p. 165).
- A species is a norm (not a class)
 - A species can be viewed as “a state of biological equilibrium in nature, a structural point of balance and stability” (p. 165).
 - Empirical specimens are imperfect exemplifications of a species
- Similarly, molecules, atoms, electrons, etc. can be considered as “norms of physical structure” (p. 165).
- **Evolution:** A commitment to a formist philosophy of science does not imply a commitment to the notion that norms must remain *fixed*.
 - “There is no reason why, in a world in which norms constituted a basic type of order, there should not be an order of evolution among the norms” (p. 165)
 - “If there is a good evidence that the ancient ancestors of men were fish, that does not in any way disturb the structural differences between men and fish” (p. 165-166)
- What, then, does the transcendent formist really believe?
 - Answer: **There are norms in nature.**
 - And “there seems to be plenty of apparently direct inductive evidence” (p. 166) for such norms.
- **The transcendent formist is on a quest to discover the laws of nature.**
 - “Persons who accept the theory that there are laws of nature, and that the aim of science is to discover these laws, which nature ‘follows,’ seem...to imply that these laws are norms which regulate (literally render regular) the occurrences of nature” (p. 165)
 - “On this view, the inductive method is a method of collecting observations for the discovery of the regularities or laws which ‘hold’ in nature.” (p. 166).
- Immanent and transcendent formism seem to be wholly compatible.
 - Characters [immanent formism] participate in norms [transcendent formism]
 - **Existence:** The field of basic particulars [Category 2 in immanent formism]
 - Existence is “primarily the field of bare particulars”
 - But this can never be observed. It may be a “sheer abstraction” (p. 167).
 - The example given above was “this particular piece of paper” (before we qualified it with the term yellow). But this isn’t quite a “bare particular” because we are already considering it as “paper”
 - Existence is “secondarily the field of all basically particularized characters” (p. 167).
 - So, “this particular piece of paper” is a basically particularized character. It can be further characterized as yellow.
 - “Concrete objects such as we perceive and handle are all in the field of existence as secondarily considered. That is, they are all basic particulars with character” (p. 167-168)
 - This is the field of **concrete existence**.
 - **Subsistence:** “the field of characters and norms so far as these are not considered as participating or being exemplified in basic particulars” (p. 168).
 - In other words, we can talk about characters and norms as abstractions, without reference to specific objects.

- We can also consider “relations” among characters and norms, without reference to specific objects.
 - “All these ‘relations’ are, of course, ties of various sorts” (p. 168)
- “Norms...are complex in character and are definitely subsistent forms” (p. 168).
 - A norm [such as the iPhone] will “participate in” (or be tied to) various characters (shiny, etc.).
 - In a sense, a norm (the iPhone) is a *particular* that can be “characterized” like any other particular, but it is a “subsistent or second-degree particular” (p. 169).
 - “It is a subsistent entity which, as subsistent, participates in certain subsistent characters” (p. 169).
- Characters can also participate in other characters, and – interestingly enough – this gives us **gestalts** (“complex characters or patterns”; p. 169). [Notice here the incredible **scope** of transcendent formism]
 - Gestalts “are not analyzable completely into elementary characters, though they participate in them” (p. 169).
- **Causality** for the formist:
 - Causality “is the result of the participation of patterns, norms, or laws in basic particulars through the forms of time and space” (p. 175)
 - So, here’s “the causal structure of a series of events” (p. 176):
 - We begin with a basic particular (or a set thereof) “having certain characters” (p. 176).
 - These characters participate “in a law, which itself participates in time and space characters” (p. 176)
 - This law determines “other basic particulars as having certain dates or positions and as having certain characters the same as those possessed by the first basic particulars, or different from them” (p. 176)
 - **More simply**, “causality is the determination of the characters of certain basic particulars by a law which is set in motion by the characters of other basic particulars which participate in the law” (p. 177).
 - Example:
 - **Presumed law:** Stress elicits a desire to affiliate with others
 - **Character of the first set of basic particulars:** Subjects are told that “*In this experiment, you will suffer painful electric shocks!*” [which presumably induce stress]
 - **Character of a second set of basic particulars:** A desire to wait with others while the experimenter sets up the shock generator [an operationalization of the desire to affiliate]
 - The first set of basic particulars “sets in motion” the law which determines the second set of basic particulars.
 - If all this seems far removed from the root metaphor of similarity, it is worth remembering that “events are genuinely similar to one another because they genuinely participate in the same law” (p. 177).
 - For a formist, “a law is not to be identified with a concrete existent structure” (p. 177).
 - Rather, “**a law is a form**” (p. 177).
 - “**This is one of the fundamental distinctions between formism and mechanism**” (p. 177).
- Formism serves as the foundation for a **correspondence theory of truth**.
 - Consider: “pictures, maps, diagrams, sentences, formulas, and mental images” (p. 180).
 - These are “concrete existences”
 - We can ascribe truth to some of them
 - But if we declare (say) a map to be “true”, it acquires this truth by virtue of its similarity to some object of reference.
 - So, when we make a truth claim, we are declaring that a certain set of objects is similar to some set of objects (*in some respect*).
 - **Truth** can be defined as “the degree of similarity which a description has to its object of reference” (p. 181).
 - Of course, “the objects they are said to be true of are not exactly similar to them, but only in respect to the form under consideration or in accordance with certain conventions” (p. 180).
 - “[A] true description actually possesses the form of its object” (p. 181).
 - There are two kinds of truth in formism:

- Historical truth: **Existence**, “descriptions of the qualities and relations of particular events” (p. 182)
- Scientific truth: **Subsistence**, “descriptions of norms and laws” (p. 182)
- **Empirical uniformities** (e.g., “the tides rise twice a day”) are *not* scientific truths.
 - “Descriptions of empirical uniformities are simply rungs in the ladder from contingent fact to necessary law. They are signs of human ignorance.”
 - “For if we knew the whole truth about them, we should know the law or the combination of laws which made their regularity necessary, or we should know that they were not necessary but were mere historical coincidences which have been mistakenly generalized and which cannot be relied upon for scientific predictions” (p. 183).

On the limits of formism

- Nature seems to be comprised as a constellation of discrete laws.
- But: “**the laws of nature may not be so discrete, so separate from one another, as the formist assumes**” (p. 184)
- “**The integration of scientific laws into a single system is...a constant threat to formism**” (p. 184).
 - If all laws could be amalgamated, then scientific descriptions would not approximate a constellation of 'separate subsistent forms', but rather “the single concrete existential structure of the universe” (p. 184)
 - “There would be no subsistence left” (p. 184)
- Also, “the weakness of formism...is its looseness of categorical structure and consequent lack of determinateness” (p. 185)
 - “Just what constitutes one particular, one character, or one norm or law?”
 - “How many particulars are there in a sheet of paper?”
 - “How many in the flight of an airplane?”
 - “How can we definitely tell a tie from a relation?” (p. 185)

Mechanism

We will begin our discussion of mechanism with a very simple observation: The world is like a machine.

- Root metaphor = Machine

What could be simpler than that? And it certainly seems possible to interpret the cosmos as a giant "machine" of sorts. But refined mechanism will enrich this metaphor to such an extent that the ultimate metaphoric machine will bear little resemblance to a spinning jenny.

Pepper distinguishes two variations of mechanism: discrete and consolidated

Discrete Mechanism

Consider a watch. It has a collection of parts that need not be described here. But we can say that each of the parts is **externally related** to the other parts. That is, they can be considered as conceptually distinct. This is an example of the "discreteness" of discrete mechanism. [Another example is the thesis that "space is distinct from time"; p. 196].

Something else worth noting about the watch is that **it matters where the parts are located in the machine**. If you fidget with a part -- *and move it to a place it is not supposed to be* -- the watch might not work any more. This insight clears the way to consider the basic categories of mechanism:

- **Category 1: The field of locations**
 - Reality is determined by location.
 - “Whatever can be located is real, and is real by virtue of its location” (p. 197).

- Formism “is the constant threat in the rear of mechanism” (p. 210).
- “The only way of avoiding this mechanistic catastrophe [of slipping back into formism] is to imbed the primary qualities **and the law** firmly in the spatiotemporal field. Things are real only if they have a time and a place. Only particulars exist. This principle must never be abandoned, for the penalty is the dissolution of mechanism” [p. 211]
- “The mechanist is scornful of abstractions and forms. He wants his feet on the ground, and the ground in the field of time and space, and he does not want to believe in anything that is not also on the ground (p. 212)
- “To achieve this end, however, he must **consolidate his categories**” (p. 212)
- **“The primary qualities and the laws must become structural features of the spatiotemporal field...”** (p. 212)
 - This brings us to **consolidated mechanism**.

Consolidated mechanism

- “In place of the discrete particle is the spatiotemporal path” (p. 212)
- “In place of the discrete laws of mechanics is a geometry, or, better, a geography” (p. 212)
- “The purpose of this cosmic geometry is simply to describe to us the unique structure of the spatiotemporal whole” (p. 212)
- Example: Relativity theory
 - “The chief modern impetus for consolidation comes, of course, from relativity theory, for this has to do with the details of the spatiotemporal field. The special theory of relativity breaks down the clean-cut traditional separation between space and time” (p. 213)
 - “But the most important evidence is **the general theory of relativity**, which **amalgamates the gravitational field with the spatiotemporal field**” (p. 213)
 - Gravitation is linked to mass – one of the primary qualities considered above
 - But “gravitational mass is interpreted in terms of a gravitational field, which has the effect of amalgamating the law of gravitation into the first category [location], so that the field is no longer just the spatiotemporal field but the spatiotemporal-gravitational field” (p. 213).
- “Strictly speaking, **there are no laws in consolidated mechanism; there are just structural modifications of the spatiotemporal field**” (p. 214)
- **There are “no primary qualities, either, for these are resolved into field laws, which are themselves resolved into the structure of the field”** (p. 214) .
- “So now, at last, *only particulars exist*, or, more truly still, *only a particular exists*, namely, the consolidated spatiotemporal-gravitational-electromagnetic field” (p. 314)
- “Laws and masses *are* the structure of the field itself” (p. 215)
- But consolidated mechanism lacks “scope”. e.g., what does the general theory of relativity have to do with the fact that Bill and Sam have decided to stop talking to each other?
- The scope of mechanism might be expanded if we introduce the notion of **secondary qualities**.
- Secondary qualities include “all the irreducible characters of the world which are not identifiable with the primary qualities...[Among] them are probably all the characters of human perception” (p. 215).
- How do we connect primary with secondary qualities? Implicit here is the issue regarding how we understand the relationship between *brain* (which is presumably consolidated with the primary qualities -- or the spatiotemporal field) and *mind* (a constellation of secondary qualities).
 - Three possibilities (for the mechanist to consider):
 - **Identity:** Primary and secondary qualities are really the same thing
 - Pepper doesn’t think this works: “Color and sound, for instance, are not literally electromagnetic or air vibrations, nor even neural activities. They are irreducible qualities” (p. 216).
 - **Causation:** Primary qualities somehow “cause” secondary qualities
 - Pepper doesn’t think this works any better. The laws considered by the mechanist (e.g., electromagnetic-field laws) “have no application to such qualities as colors and sounds” (p. 216)
 - **Correlation:** The observation that “upon the occurrence of certain configurations of matter certain qualities appear which are not reducible to the characters of matter or the characters of the configurations” (p. 216-217)

- “The term **emergence** signalizes such correlated appearances” (p. 217).
 - If we go with **correlation [emergence]**, we have the problem of somehow getting from “matter” to “mind” (and eventually “culture”).
 - “The gap between such secondary qualities as our sensations of color or sound and the configurations of matter among primary qualities seems to be so great as to **suggest many intervening levels of successively emerging secondary qualities**” (p. 217).
 - “**Thus we pass from the elementary and primary electrons, positrons, neutrons, and so forth, to atoms, molecules, crystals, amino acids, cells, tissues, organisms.**” (p. 217)
 - “**At each level new properties seem to emerge which are not reducible to, or predictable from, the properties of configurations at the lower levels**” (p. 217).

The mechanistic theory of truth

- Does "correspondence theory" work?
 - Pepper observes that many mechanists do indeed embrace a simple correspondence theory of truth whereby an idea (or image) in my mind corresponds with the object about which I am making truth claims. But this doesn't really work because “both the object and the idea which are being directly compared for their correspondences are private awarenesses of the individual organism making the comparison. We get no assurance from such correspondence about the truth of our ideas concerning the external world” (p. 222).
 - Correspondence theory leads us to the conclusion that “the truth can never be known, since it can never be reached for a direct comparison with an idea that is within the organism” (p. 222).
 - Simple correspondence theory may eventually give way to a more sophisticated **symbolic correspondence theory**, where the “idea” is replaced by a “a group of symbols in a sentence or a scientific formula” (p. 222).
 - “[If] these symbols correspond with features of the object, and the symbolized relations among the symbols with the relations among the objects, [then] the sentence or formula is true” (p. 222)
 - Symbolic correspondence theory doesn't solve the problem noted above (i.e., acquiring knowledge of primary qualities).
 - But another path may be open to the mechanist.
- **The causal-adjustment theory**
 - We can begin a consideration of this theory by observing the mechanist's commitment to **nominalism**:
 - Words such as “blue jay” are not references to immanent forms or transcendental norms.
 - Rather they are simply labels for a number of objects.
 - “Blue jays are grouped into a class simply by virtue of the fact that they are all called by that name” (p. 226).
 - In its simplest form, nominalism has no real way to account for the fact that a particular set of objects were grouped together in the first place (only to be named later).
 - But the mechanist can develop a more sophisticated nominalism
 - “What, now, is a name? It is a specific response made by an organism on the stimulus of specific environmental configurations. In principle it is exactly the sort of thing that happens when an organism reacts positively to food stimuli and negatively to prick stimuli. It is simply specificity of response in an organism carried to a higher degree of refinement” (p. 226)
 - So, “a sentence or scientific formula physiologically interpreted is nothing but a combination of such reactions or conditioned reflexes. The whole thing can be causally interpreted” (p. 226).
 - If I say “that is a sharp nail!”, I can test this truth claim by recreating the original experience that led me to make this statement:
 - “I would tentatively step on the nail, and if I reacted negatively, I would say that the sentence was true; if not, I

- would say that it was false and look about the causes which produced the illusion” (p. 226)
 - Contra formism, “nothing is implied about an identity of form between the sentence and the nail” (p. 226)
 - “What makes error possible is itself causally explained. An organism develops a set of attitudes, or physiological sets, on the basis of certain physical stimuli. These attitudes often lack specificity, so that they may be set off by stimuli which usually support the attitude but on [some occasions] do not” (p. 228)
 - “The nail turns out to be a twig that looked like a nail” (p. 228)
 - “The mistake can be easily explained, and is the bases for making the attitude still more specific, so that these mistakes will be rarer” (p. 228).
- “Truth thus becomes a name for physiological attitudes which are in adjustment with the environment of the organism” (p. 228).
- Pepper suggest that we might dub this the **causal-adjustment theory of truth**.
 - According to this theory, we “learn about the structure of the great machine by a sort of detective work” (p. 229)
 - We document “changes among our private secondary qualities”
 - And then we “infer their correlations with physiological configurations which are in our organism”
 - And “thence infer the structural characters of the surrounding field from its effects upon the configuration of our organism” (p. 229).
 - Example: “Are there any red-winged blackbirds?”
 - We first establish a pattern of secondary qualities: e.g., “we construct the image in our minds or write out our description in words” (p., 229).
 - We then “infer that these [secondary qualities] are correlated with effective and specific physiological configurations within our organism” (p. 229)
 - Our organism (*in tune with our mind*) thus becomes an instrument that allows us to address the matter at hand.
 - “We then propel our organism about the environment to find out whether there are any configurations in the world that will directly stimulate this physiological attitude, and so bring up the correlated words in our sentence, or the correlated shapes and colors in our perception” (p. 229)
 - “If this happens, we call our sentence or idea true” (p. 229).

On the limits of mechanism

- Secondary qualities are merely *correlated* with primary qualities. This reintroduces *discreteness* into an otherwise consolidated metaphysics.
 - **The “gap between the primary and secondary categories still remains the center of inadequacy for mechanism”** (p. 231).
- If we abandon secondary qualities entirely (as does the strict **materialist**), mechanism has a serious problem with scope.

Stephen Pepper’s World Hypotheses: Season 1; Episode 4

Contextualism

The root metaphor for contextualism is the **historical event** in all its richness. However, Pepper does not believe that “synthetic” world hypotheses are as obviously grounded in their root metaphors as are “analytic” world hypotheses. As such, “we are too likely to be misunderstood at the start” (p. 232) if we begin with a simple consideration of the grounding metaphor.

Forewarned by Pepper, let us nevertheless ponder an historical event. We should not focus on a *past* event (such as our high school graduation) because that episode is now “dead” (p. 232). Rather, let us find a living episode – “a dynamic, dramatic, active event” (p. 232) – something that is happening *right now* – in my specious present.

Well, the only thing I can think of is this:

- I’m now trying to write up notes that will clearly communicate Stephen Pepper’s ideas about contextualism to an audience unfamiliar with the original text.

So how should I articulate the spirit of this historical event?

Pepper would encourage me to accentuate the *verbs*: e.g.,

- “*making* a boat”
- “*running* a race”
- “*laughing* at a joke”
- “*Persuading* an assembly”
- “*Unraveling* a mystery” (p. 233, emphases added)

In fact, “to give instances of this root metaphor in our language with the minimum risk of misunderstanding, we should use only verbs: It is doing, and enduring, and enjoying” (p. 232).

So, here I am explaining what I’m trying to do in this episode of *Stephen Pepper’s World Hypotheses*. I want to find a way to make Pepper’s ideas accessible to a general audience. No. That’s not quite right. I want to make Pepper’s ideas accessible to me (!), and if I can accomplish this then it should be a relatively easy task to explain his ideas to somebody else.

A scholar with analytic proclivities (i.e., a formist or mechanist) might take this historical event and try to dissect it. For example, a formist might adopt the following scheme:

- Behavior = Person X Situation [B = P x S]
 - **Behavior:** I’m writing out these notes for Chapter 10 of Pepper’s “World Hypotheses”
 - **Person:** I can appropriately be considered as a constellation of traits, attitudes, values, etc.
 - For example, I’m a reasonably curious person, and this curiosity has inspired my present quest to understand Pepper.
 - **Situation:** I have limited time to work on these notes. If this were summer vacation, my notes would likely be better organized, more richly developed, etc.

But the contextualist does not begin with any such faith in the revelatory power of analytic dissection. The scheme above [B = P x S] is clearly a formist pretense, and this remains true even if the scholar believes that the “situation” (and/or the interaction term: “x”) accounts for the substantial majority of behavioral variance.

In the scheme above, *person* variables are clearly “norms” as formists understand the term (see Episode 3). Less obvious is the formism implicit in the conceptions of “Behavior” and “Situation”, neither of which are ever considered in their brute nudity. Rather, both terms are effectively *norm*-alized. For example, I might measure the extent to which a person engages in *talkative* behavior (where “talkative” effectively functions as a norm). Such behavior might be predicted by trait *extraversion* (another norm). Of course, I’m aware of the power of the situation to shape behavior (“talking”, in this case). So, I consider the possibility that even introverts might be talkative if, say, they are employed as teachers and are presently “on the job”. In sum:

- **Talking Behavior = Personality Traits** (e.g., extraversion) x **Professional Situation**

It appears here that I have acknowledged that both personality *and* the situation have the power to shape my “behavior”. I am, it seems, giving due respect to the situational context. ***But this is not contextualism.*** If we wish to get closer to the spirit of the contextualist world hypothesis, we would be better off collapsing these three terms [B, P, and S] and saying: *I am my situation* – or, perhaps even better, *I behave my situation*. Or better still: *I behave* – and our metaphysical challenge is to illuminate the meaning of this behaving.

The historical acts with which Pepper is concerned [e.g. *doing*] are “intrinsically complex, composed of interconnected activities with continuously changing patterns. They are like incidents in the plot of a novel or drama. They are literally the incidents of life” (p. 233).

- The features of the event “interpenetrate” (p. 233), and our analytic proclivity to partial out conceptually distinct elements (or “factors”) does violence to our lived experience.
 - I’m reminded here of the tendency – common among positive psychologists – to consider the Good Life in relation to a constellation of conceptually distinct *virtues* and *character strengths*.
 - For example, “love” is a character strength that allows us to realize the virtue of “humanity”. “Forgiveness” is another character strength that allows us to realize the virtue of “temperance”
 - But is a “love” *without forgiveness* really the same thing as a “love” *with forgiveness*? For a contextualist, love and forgiveness are not conceptually distinct variables that somehow “interact” to produce character. Rather, they **interpenetrate**. Love deprived of forgiveness is not the same thing as love blessed by forgiveness.

If features of an event interpenetrate (e.g., “forgiveness-love”), then the meaning of the event need not ever remain stable. It is always possible to witness new interpenetrations. As such, **“the ineradicable contextualist categories” are “change and novelty”** (p. 235).

This immediately confronts us with a problem: The world does seem to manifest a certain sort of stability (e.g., the sun rises each morning, Eric is a very “disagreeable” person). We do not

live in a state of chaos. For this reason, Pepper observes that “contextualism is constantly threatened with evidences for permanent structures in nature” (p. 234-235).

However, contextualism may be able to embrace constancy on its own terms. There may be good historical (contextualist) reasons why certain states of affairs tend to perpetuate themselves. For example, Nietzsche (who might be most appropriately considered as a contextualist) draws attention to cultural dynamics that encourage stability at the level of an individual’s character:

- “Society is pleased to feel that the virtue of this person, the ambition of that one, and the thoughtfulness and passion of the third provide it with a dependable instrument that is always at hand,—it honors this instrumental nature, this way of remaining faithful to oneself, this unchangeability of views, aspirations, and even faults and lavishes its highest honors upon it. Such esteem...breeds "character" and brings all change, all re-learning, all self-transformation into ill repute. (Nietzsche, *The Gay Science*, Section 296)

Quality and Texture

Still, if change and novelty are the “ineradical contextualist categories” (p. 235), they may not be very useful in helping us make sense of our shared world, which does “seem to exhibit a structure which may be regarded as relatively uniform” (p. 235). Thus, we need categories appropriate to our present historical epoch. Pepper suggests **quality** and **texture**:

- **Quality:** The total meaning of an event
- **Texture:** The stuff that makes up the event.

According to Pepper, “there is no such thing as a textureless quality or a qualityless texture” (p. 238). So, a consideration of quality must also pay attention to the **texture** of an event. As we look at the event more closely, we may be able to highlight important **strands** of texture:

- **Strand:** “whatever *directly* contributes to the quality of a texture”
- The **context** in which the strand is embedded also contributes to the quality of the texture, though “indirectly”.
 - **Example:** As I contemplate Mueller’s investigation of Russian interference in the 2016 elections, various strands of meaning emerge (e.g., a subpoena). However, these strands must also be considered in relation to an historical context that also shapes the meaning of the events I am witnessing. So *this* subpoena, *this* arrest, directly contribute to the quality of the event I am contemplating (and can thus be considered as strands). Watergate indirectly contributes to the quality of the same event (and can thus be considered as context). Watergate shapes the meaning of present events, without really being the focus of my attention (as are strands). Of course, when I listen to Slate’s “Slow Burn” [a Watergate podcast], Nixon and Watergate emerge as “strands”, and the Mueller investigation functions as “context”.
 - Pepper recognizes that there is “no very sharp line between strands and context” (p. 246)

- Pepper's example -- Consider the following sentence:
 - **"A period will be placed at the end of this sentence."** (p. 246).
- The sentence above has four phrases:
 - "A period"
 - "will be placed"
 - "at the end"
 - "of this sentence."
- Let us focus on one phrase for the moment: "at the end"
 - This phrase constitutes a **texture**.
 - The **context** of this texture is the other three phrases.
 - The **strands** that make up this phrase are the words: "at", "the", and "end"
- Of course, it would be possible to consider the *whole sentence* as texture. In this case, "the wider references [presumably other sentences] become context and the phrases of the sentence become strands" (p. 248).

Textural Fusion

- Significantly, "quality always exhibits some degree of **fusion** of the details of its texture" (p. 243).
- "This feature is perhaps most clearly perceived in savors and musical chords" (p. 243).
- In my previous example of "forgiveness-love", we have a quality that can be considered as a fusion of the texture. As a quality, it is different in kind from "love-without-mercy".
- "Contextualism is the only theory that takes **fusion** seriously. In other theories it is interpreted away as vagueness, confusion, failure to discriminate, muddledness. Here it has cosmic dignity. And it takes a certain revenge on the indignity to which it is subjected by other theories, by interpreting all cosmic simplicities as instances of fusion" (p. 245).

Dynamic Features of Contextual Analysis:

- "The quality of an event is the fused qualities of its strands, and the qualities of its strands come partly out of its context, and there we are outside the event. All contextualist analysis has this sheering effect. As we work down into the constituents of a texture, we presently find ourselves in textures quite different from the one which we started, and somewhere in its context" (p. 249).
- "A bottom is thus never reached. For the support of every texture lies in its context. This support is as extensive as you wish, but you never reach the end of it" (p. 250)
- "[There] are many equally revealing ways of analyzing an event, depending simply on what strands you follow from the event into its context" (p. 250).

A Contextualist Theory of Truth

- “The question of truth arises when a strand is blocked” (p. 269)
 - “In colloquial terms, a problem arises and we seek a solution of the problem” (p. 269).]
 - The simplest version of this theory of truth is the notion that “**truth is utility or successful functioning**” (p. 270). Pepper dubs this the **successful working theory of truth**.
 - “The successful action is the true one and the unsuccessful actions are false” (p. 270).
 - A more sophisticated variation of contextualism identifies a **verified hypothesis** with the truth.
 - “It is not the successful act that is true, but the hypothesis that leads to the successful act. When there is no hypothesis there is neither truth or falsity, but just successful or unsuccessful activity” (p. 272).
 - The difference between the **successful working** and **verified hypothesis** theories of truth may seem to be slight. After all, both appear to be saying that “the proof is in the pudding” – Truth is *whatever works!*
 - But an important distinction is being made here. With **successful working theory**, simple trial and error is sufficient to establish truth. But with the **verified hypothesis theory**, truth depends on acquiring genuine understanding (i.e., *hypotheses* that can be verified).
 - Pepper’s example: “A rat that tried one alley after another in random fashion would have unsuccessful and successful acts. These would be false and true acts according to the ‘successful working’ theory, but not according to the ‘verified hypothesis’ theory. But if the rats showed evidence of anticipatory attitudes which their acts proceeded to verify, then an unsuccessful act would show the falsity of the attitude and a successful act its truth” (p. 273-274).
 - **Verified hypothesis** theory interprets the theoretical model that generated the hypothesis as nothing more than “a tool for the control of nature. It does not mirror nature in the way supposed by correspondence theory...” (p. 275).
 - An enrichment of the verified hypothesis theory – dubbed the **qualitative confirmation** theory – recognizes that a contextualist hypothesis offers a premonition of the “texture” and “quality” of the events modelled by the theory:
 - “A true hypothesis, according, does in its texture and quality give some insight into the texture and quality of the event it refers to for verification” (p. 277).

- More generally, “the body of hypotheses possessed by science and philosophy gives us a considerable amount of insight into the structure of nature” (p. 277-278).
- Of course, at this point it is not altogether easy to see how this theory of truth differs from those postulated by other world hypothesis (e.g., the correspondence theory associated with formism).
- Still, even if there is a sense in which our theories must somehow conform to the texture and quality of the world, the contextualist remains free to ask: **“how can you be so sure that nature is not intrinsically changing and full of novelties?”** (p. 279). In other words, even if our theories must conform to the world, we cannot escape the question: **conform to what?**

Stephen Pepper’s World Hypotheses: Season 1, Episode 5

Let us begin with a brief meditation.

Reflect for a moment on the notion of **generativity**.

- Erik Erikson (1963) describes generativity as "**primarily the concern in establishing and guiding the next generation**" (p. 267).
- Of course, generative actions need not be limited to the support and guidance of one's own offspring. According to Erikson (1964), "**generativity, as the instinctual power behind various forms of selfless 'caring,' potentially extends to whatever man generates and leaves behind, creates and produces (or helps to produce)**" (p. 131).
- John Kotre (1984) considers generativity as "**a desire to invest one's substance in forms of life and work that will outlive the self. The investments are ways of achieving material and symbolic unity with an extensive and enduring future**" (p. 10; underline in original).
- Dan McAdams (1992) offers additional clarification by considering generativity as **the thematic unity of a meaningful personal narrative**:
 - “As Sartre (1964) points out, the ending of a story shapes all that comes before it...One's sense of wholeness and direction is teleologically anchored. If I am to know who I am as an adult, then I must conceptualize my life in terms of a telos--I must formulate a clear

vision of what I am going to do in the future in order to bring the narrative to a good completion....Further complicating the adult's search for an appropriate ending to his or her life story is the fact that he or she generally does not want the story to end....What is needed, therefore, is a satisfying ending for a life story that implies, at the same time, that the story does not really end!" (pp. 358-359)

So considered, generativity is clearly a meaningful *psychological* concept. But I'd like us to consider – at least as a thought experiment – the possibility that generativity is not simply a personal need or value. Rather, the notion somehow taps into the very secret of the cosmos. By engaging in truly generative acts – by weaving generativity scripts into my personal narrative – I am somehow participating in the cosmic act of creation that began with the Big Bang. Insofar as I am authentically generative, I experience myself as “in tune” with nature. The psychological and the cosmological have become one.

I am not yet able to sufficiently corroborate the observations made in the previous paragraph. Again, it is just a thought experiment. But let us toy with the possibility that the notion of “generativity” brings us closer to “**the absolute**” (Pepper, 1942, p. 301) than does any alternative scheme.

This meditation confronts us with a new question: What are the conditions of possibility for a generative mode of being-in-the-world? For starters, it appears that some sort of “communion” appears to be involved. According to John Kotre (1984):

- *“**Communion** represents the participation of the individual in a mutual, interpersonal reality or in some large organism. It is represented by the precept ‘die and become’”*
- *When communion achieves fulfilment in generativity, “life-interest is transferred to the generative object. The object is loved for itself, and the worst thing imaginable is its death”*

Kotre (1984) observes that the generative project can be perverted in various ways. Of special concern to Kotre is the possibility that *agency* might emerge as the dominant theme in a personal narrative:

- *“**Agency** represents the self-asserting, self-protecting, self-expanding existence of the individual. It is represented by the precept ‘survive and kill’”*

- When agency hijacks the generative project, *“life interest is retained in me. Generative objects may be narcissistically possessed, cannibalized, or erected as monuments to the self. The worst thing imaginable is one’s own death”*

We can appreciate Kotre’s point about the dangers of agency without communion. Still, we might recognize a place for *a certain sort* of agency in authentic generativity. Dan McAdams recognizes that an “inner desire” to lead a generative life ideally involves a *synthesis* of agency (“symbolic immortality”) and communion (“the need to be needed”). In fact, communion without agency may be as destructive to the generative project as is agency without communion. My friend says: “It really bothers me that the world is going to hell in a handbasket, but what can I really do about it?”

Perhaps generativity is most appropriately considered as *an ideal synthesis of agency and communion*. If we follow this lead, we would be obliged to further explore the meaning of the terms “agency” and “communion” and document how various semantic fragments achieve their fulfilment in the notion of generativity. Erik Erikson highlights a constellation of psychosocial virtues that would appear to function as just such *fragments of meaning*:

- **Hope** [which I might consider as a “communion” fragment]
- **Will** [an “agency” fragment]
- **Purpose** [where the accent seems to be on “agency”, but I can recognize “communion” themes here as well]
- **Competence** [pure “agency”]
- **Fidelity** to a way of life – to an “identity” [“agency” again]
- **Love** [pure “communion”]

This is no mere *collection* of virtues (like those we encounter in the positive psychology literature). Rather, each of these psychosocial virtues is *integral to the functioning whole*.

What we have here is a sketch of a very primitive form of **organicism**, a synthetic world hypothesis concerned with the dynamics of integration.

The **root metaphor** of organicism is, of course, **the organism** – though we might substitute the term **integration**. Pepper observes, however, that “as with contextualism...no ordinary common-sense term offers a safe reference to the root metaphor of the theory”:

- “The common term ‘organism’ is too much loaded with biological connotations, too static and cellular, and ‘integration’ is only a little better. Yet, there are no preferable terms. With a warning, we shall accordingly adopt these” (p. 280).

A side note: We might wonder about the value of root metaphor theory if Pepper simply *gives up* on the root metaphor at the start (or declares it *barely adequate*). I think the issue here is that the basic metaphors that guide thinking find themselves evolving much as rough danda are transformed into refined danda. For example, in mechanism, the root metaphor is the “machine”. But a wristwatch that works well as an image for *discrete* mechanism is less adequate for a more refined *consolidated* mechanism (where Pepper suggests the image of a “dynamo”).

It should be clear that if we employ the term “organism” as a root metaphor, we are not using this image to generate specific theories. [As noted in previous episodes, a root metaphor is not a parochial metaphor]. Rather, the metaphor inspires a style of thinking that eventually achieves such a degree of refinement that the connection between the original metaphor and the world theory is quite obscure (at least from the vantage point of “common sense”).

Categories of Organicism:

- **1) Fragments:** “whatever is not integrated” (p. 290)
 - “An isolated datum is a fragment. It becomes precise and significant only when it is brought into a coherent system and connected with other data” (p. 290).

- **2) Nexuses:** The *internal drive* of fragments “toward the integrations which complete them” (p. 291).
 - Agency does not want to remain mere agency! It seeks its fulfillment in a generative mode of being-in-the-world.
- **3) Contradictions:** “The nexus of a fragment leads it inevitably into conflict and contradiction with other fragments” (p. 292).
 - The nexus of agency is in tension with the nexus of communion.
 - More concretely: Suppose I have achieved a stable identity – “fidelity” to a certain manner of being. Is there a danger that this hard-won sense of self will be threatened by the authentic experience of intimacy?
- **4) Organic Whole:** The “integration of conflicting fragments” (p. 298)
 - **The principle of organicity** – Two formulations:
 - A) “An organic whole is such a system that every element within it implies every other”
 - B) “It is such a system that an alteration or removal of any element would alter every other element or even destroy the whole system” (p. 300).
 - E.g., An authentic sense of identity, far from being threatened by genuine communion, actually makes such communion possible:
 - Erikson: “It is only after a reasonable sense of identity has been established that real intimacy with others can be possible. The youth who is not sure of his or her identity shies away from interpersonal intimacy, and can become, as an adult, isolated or lacking in spontaneity, warmth or the real exchange of fellowship in relationship to others; but the surer the person becomes of their self, the more intimacy is sought in the form of friendship, leadership, love and inspiration.”

- **5) Implicitness:** “Fragments are implicit in the whole in which they are integrated” (p. 304).
 - “Fragments were details in this whole all the time and...their apparent fragmentariness was an error and illusion” (p. 304).
- **6) Transcendence:** Contradictions “are transcended in the integrated whole” (p. 305).
 - The tension between agency and communion is transcended in the organic whole dubbed generativity.

My generativity scenario is misleading in the following respect: I *began* with “the absolute” and worked backwards. There is certainly something to be said for this procedure. Lawrence Kohlberg (who clearly has organismic proclivities) once described his theory as “the rational reconstruction of the ontogenesis of justice reasoning”. Still, we may never be so fortunate as to have such easy access to the absolute.

Science typically proceeds from the bottom up:

- Pepper (speaking as an organicist): “What are the facts of astronomy? Why, precisely the system of Einstein or Newton. There are, no doubt, errors in Einstein’s system, as there were in Newton’s. How will they be discovered and corrected? Just as physicists and astronomers corrected Newton’s system: by finding new data, tracing out the contradictions among data, finding the integrations of data which resolve these contradictions” (p. 301).
- “As we increase, perfect, and organize these data we get closer to the facts of the case. What, then, may we presume the facts of the case actually to be?” (p. 301)
- "It is the **all-inclusive, completely determinate system of mutually implicative or causally interdependent data**. At the limit, implication and causality would coalesce, for logical necessity would become identified with ultimate fact. This limit of cognition which is absolute fact is often called...**the absolute**" (p. 301).

We are now in a position to consider the final category of organicism:

- **7) Economy: “Nothing is lost in the absolute”**
 - What?!? How about all those lame ideas in the history of science (e.g., the theory that the world is supported by a giant turtle). Must these absurd fragments *also* be integrated into our all-inclusive, completely determinate system?
 - Pepper says (in effect): Yes, we need to integrate even the lame ideas. And if we haven’t been able to do this, we haven’t yet arrived at the absolute.
 - Let’s consider Newton’s system. It appears that he left out many observations made by other important thinkers; e.g.,
 - “Anaximenes’ leaves and disks and mountains”
 - “Aristotle’s crystalline material”
 - “Ptolemy’s epicycles and eccentrics” (p. 306)
 - The above observations contradict Newton’s system. How might an organismic thinker deal with this?
 - The observations above “were not actually implied by the astronomical data. They are what we familiarly call ‘psychological interpretations’”
 - “A psychological interpretation is, of course, also a fact. **But the proper place for a psychological interpretation is not in an astronomical system**”
 - “In a **psychological system**, however, it is very relevant. That is where most facts belong which were dropped out in the progress of astronomy.”
 - **“Psychology also has its history of successive integrations pointing, just as astronomy does, to the ultimate integration of the absolute” (p. 306).**
 - Eventually, the psychological system will be **integrated** with the physico-astronomical system.
 - “Just how, we cannot say at the present stage of integration of psychological data” (p. 307).

A Coherence Theory of Truth

- Truth is a function of the extent to which an observation or judgment *coheres* with the absolute.
 - “Each level of integration resolves the contradictions of the levels below and so removes the errors that were most serious there” (p. 310)
 - “Each level brings about an improvement of judgment” (p. 310).
 - “Each level exhibits more truth through the higher integration of the facts” (p. 310).
- Pepper takes care to distinguish organismic *coherence* from mere *consistency*. There are many internally consistent “systems.” However, “it is not formal consistency but material coherence that the organicist sets up as truth” (p. 310).
 - If this seems odd, it is probably because we haven’t yet grasped the absolute. Agency and communion are never “consistent” in any meaningful sense. But, in mature generativity, they can be said to “cohere”.

Postrational Eclecticism

Thus ends our brief tour of Stephen Pepper’s *World Hypotheses*.

Pepper observes that “the history of cognition, or, more narrowly, the history of philosophy, presents to us hundreds of world hypotheses” (p. 326). However, we can simplify matters if we organize these hypotheses into “families”, each with its own theory of truth:

- Mysticism: Immediate certainty
- Animism: Infallible authority
- Formism: Correspondence theory
- Mechanism: Nominalism or causal-adjustment theory
- Contextualism: Pragmatism (e.g. verified hypothesis theory)
- Organicism: Coherence

How deep is the tension among these world hypotheses? While Pepper does not see grounds for a rational synthesis at present, he does offer the following hopeful observation:

- “We know a good deal about the world. We have four rather highly adequate theories about it [formism, mechanism, contextualism, and organicism]. But we have no single judgment to give as yet. Nevertheless, **as we trace the history of cognition over the last twenty-five hundred years we get a definite sense that from different angles our theories are closing in upon the world**” (p. 331).
- “The division of the four relatively adequate theories into analytic and synthetic, and each of these division into dispersive and integrative, would be puzzling in its symmetry if it did not suggest the same conclusion” (pp. 331-332)
- “Moreover, multiplicative corroboration is pressing up from below as these four modes of structural corroboration are pressing in from the sides. These various modes of corroboration are, from a certain distance, seen all to be cooperating in a single enterprise” (p. 332).
- **“Paradoxically, our very insistence on the autonomy of these modes of corroboration renders their mutual cooperation clearer and more effective than it would otherwise be, for thus they cease to neutralize each other or to get in each other’s way”** (p. 332).
 - *Let contextualists be contextualists. Formists, go home!*

So what are we to do? Pepper suggests: **“rational clarity in theory and reasonably eclecticism in practice”** (p. 330).

- “If a world theory partly developed in one set of categories is broken in upon by a foreign set of categories, the structure of corroboration is broken up and we cannot clearly see how the evidence lies. For intellectual clarity, therefore, we want our world theories pure and not eclectic” (p. 330)
- “But for practical application we must be mindful of the judgments of all such rationally justifiable theories. Here each of the four highly adequate theories stands on a par” (p. 330).
- “Our **postrational eclecticism** consists simply in holding these four theories in suspended judgment as constituting the sum of our knowledge on the subject” (p. 342).

NARRATOR: “We have no theory of truth to supersede or legislate over the four most adequate ones” (Pepper, 1942, p. 347). **Or do we?**