# A Creativity Checklist
## 1500 Variables that Create Creativity

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**Research Questions:**
1. **How do research and achievement of creativity improve when a tool of much greater comprehensiveness, detail, and level of organization is applied to common assessment, evaluation, and specification tasks?--the secondary question in this paper.**
2. **How do you create a checklist vastly more detailed, comprehensive, and ordered than any prior such tools?--the primary question in this paper.**
3. **What models of creativity if put into a large checklist format offer enough comprehensibility, diversity, and practicality to motivate people to use, study, and fully apply the checklist tool?**

This article presents the key variables of each of 20 well-ordered models of creativity, in a checklist format. 1500 variables, organized in checklist format, with 0 to 10 point scales and fill in spaces for each variable, are included. Each of the 20 models is explained as well as some important initial uses of the checklist, by the author and other organizations. The significance, for understanding creativity and impacting it practically, of having more detailed, comprehensive, well-ordered, and articulated models of it is examined in the context of an overall program of structural cognition--applying ordinary cognitive operators not to sets of 3 to 6 ideas at a time but to ordered patterns of 50 to 100 ideas at a time. Research, educative, and work improvement uses of the checklist are described.

**Method: A model of 60 models of creativity was used to select 20 models, from diverse original model categories, to balance practicality, diversity, and comprehensibility.**

The most comprehensive model of creativity models yet published was used to furnish 60 models from which 20 were chosen for this 1500 item checklist. 1500 items were the cut off point because that is the maximum number of items that could be explained and scored by actual groups in a 3 day 8-hour day format. Which of the 60 models was chosen was entirely determined by dozens of consults over a period of years, noting which models were most requested, used, studied, asked about, by hundreds of consulting clients. A count was kept over a five year period of these requests, etc. and a simple summary of it used to pick the models most salient to clients during that time period. This is a non-scientific sampling method that yet has significant practicality.

**Result: A checklist of 1500 variables that affect creativity or generate it, from 20 diverse models of what being creative is, in a format that non-professionals can understand and score in a 3 day 8-hour day format, if led by an instructor who explains each of the 1500 items just before each is scored.**

## Extending Minds with Checklists

School systems are dedicated, all over the world, to "schooling" minds, that is, brain matter inside people's skulls. However, anthropologists and others have suggested it is tools outside our minds--our so-called "extended minds"--that make us truly intelligent. We differ from other animals in the diversity, number, complexity, and sophistication of tools outside our minds that perform cognitive functions for us. Among such mind extending tools are checklists.

A global movement to improve quality of production in every agency, company, and industry by totalizing responsibility for quality, from a single quality-assurance profession, to entire workforces, called "the total quality movement" made checklists a key tool of quality attainment. The purpose of checklists, in this movement, was the cognitive "reminding" function and a "comprehensiveness" function. People, without checklists, simply forget what they know. They think up a few items in their minds and check for them but anything more than ten or twelve items in length, quickly falls prey to forgetfulness or misremembering. Checklists remind people of all the alternatives or items of a certain type, so people can quickly check them all. Similar to this reminding function but not quite the same as it is the comprehensiveness function. People are quite willing to omit a few items of a certain type when a lot of such items have already been handled or used. If we achieve checking of 95 out of 100 items, we feel, in most real dialy life and work situation, that that is good enough. However, the total quality movement found our casual willingness to check most, 95 out of 100 items, doomed quality of production. Checking most items was not good enough--all items of a particular sort had to be checked, again and again, thoroughly. Checklists reminded people and they kept their checking comprehensive not spotty.

Checklists can be used for research purposes. They are specially simple questionnaires when used this way. Where usual questionnaires consist of dozens of different questions, checklists are the same question(s) repeated for dozens of topics. Where there are multiple competing models of a phenomenon, checklists of key factors from each of those multiple models, if filled in by good samples of populations whose behavior is of interest, can identify which models make most sense to people, which factors within key models make most sense, and the like. If the wording of checklist items is adjusted to ask for the presence of behaviors or actions associated with intellectual constructs from a theory, the checklist can be used as a true research questionnaire instrument, with scaled scores, fill-ins later turned into new scales, and boolean "yes-no" marking of factors and outcomes present or absent from particular cases. It is worth noting that checklists, thusly modified for research, are often quite a bit faster to fill in, than usual research questionnaires, though checklists can be boringly repetitious to fill in, that undermining the quality of answers obtained with them unless specific countermeasures are included.

## Creativity Calls for Checklists

Is there any need of a checklist for creativity? If so, how would we know that? When we consider making cities attractive to global creative elites or when we consider adjusting work environments so as to promote more creativity of given sorts or more sorts of creativity than those currently present, our eventually success depends strongly on how well we articulate what it is that needs support and what it is, overall, that can do supporting functions, how well such things that can do supporting functions support all the amounts and types of creativity that are there, and how well such things that can do supporting functions support establishment of new types of being creative not now present. These four functions:

- articulating what needs support--type of creativity and features per type
- what can do supporting functions
- how well things that can do supporting functions support the types and amounts of creativity present
- how well things that can do supporting functions support establishing types of creativity now missing

are typically treated with levels of detail having ten to fifteen items, in most published research, and in nearly all creativity consulting and practice. That is, ten or so creativity aspects needing support for each of ten or so types of creativity present are handled, typically. In truth, most published research and practice cases handle ten or so aspects of less than ten types of creativity. The way we use our minds, habits put in us by schools, expectations from how others around us use their minds--all these make us satisfied when ten or so items are articulated.

Richard Florida, for example, consults on making cities and companies more creative. Both cities and companies have the problem of attracting and keeping global creative elites, who choose where to live and

where to work based on creativity factors not just pay, wealth, status, or fame concerns. Museums, concert halls, sports stadiums, for example in Prof. Florida's research, were found to be unrelated to attracting global creative elites. They wanted technology, talent, tolerance, and the chance to develop themselves as creative people having "creator" identities. This kind of research is typical of current publishings--stopping at four factors determining what places will attract global creative elites. To be sure, between the lines of Prof. Florida's book, you can discern a dozen other factors, but basically his entire argument is done at the "10 item level" of articulation. What would his same argument look like if done at the 100 to 1000 item level of detailed articulation? What benefits might appear?

Several of the world's top ten universities have serious creativity consulting programs. The best of these programs investigate impact on the ten variables of one model of creativity of dozens, typically between 100 and 200, aspects of work practices and environments. What can do supporting is well articulated (at the 200 level) while what it supports is less well articulated (at the 10 level). This is fine if creativity is one thing. But if creativity is dozens of things, if there are types of creativity, perhaps many types or approaches to it, then finding how hundreds of work aspects support one type, misses the entire point, does it not?

Prior research pointing to 60 types of creativity, each type having 10 to 50 variables that define it, furnishes another constraint and threat. There many be so many approaches to creating, and so many factors defining each, that the overall result is too vast and complex for people to handle well in practice. Some moderate ground may be needed--enough types of creativity to cover the diversity of creating approaches usually there in most workplaces and enough work system aspects supporting them to cover most of what influences those selected approaches to creating. This middle way is what this article presents. It avoids prior research using large numbers of workplace aspects measured for their support for few models of creating and it avoids the opposite, huge numbers of workplace aspects applied to huge numbers of approaches to creating.

The goal of this article is to present a checklist of aspects of creativity--factors that define models of creating--large enough to improve model articulation by one order of magnitude compared to prior published research and cases, yet small enough to be practically manageable.

The Goal of this Article:  To Develop
- a checklist large enough to expand by one order of magnitude the articulation of types of creating and factors affecting each type compared to previous literature
- a checklist small enough to be practically manageable and time efficient to use.

## Plural Frameworks Enables Seeing More Reality

Reality is not fixed, something out there, that we perceive dimly. It expands as we apply more frameworks, more diverse frameworks orienting where and how we look and what we notice. Send ten people to any movie, and afterwards, at a restaurant, hold a group conversation asking each person, in turn, what they noticed? what at each tenth of the movie's elapsed time they felt? what those feelings brought to mind as associations and remindings? what changes of direction and flow appeared? what names would they give each section between changes of direction and flow? what they now interpreted each segment to mean? what they now were less likely to do and more likely to do as a result of experiencing the movie thusly? If you actually do this (I have done it hundreds of times) you find inevitably all the people notice, feel, associate, segment, interpret, decide different things than all the others. Plural people, seeing a movie and discussing it together afterwards, see more than any of them individually do. Reality of the movie is simply bigger when the variety viewing it is greater. In like fashion, in any life situation, those applying more frameworks, and more diverse frameworks to a situation, notice more stuff going on there than others. Reality is bigger for them.

This is the theoretical reason that justifies developing comprehensive, highly detailed in articulation, checklists on phenomena like creativity. We will notice more creativity and more about it when we see it through more lenses and lenses differing more from each other.

## The 20 Models of Creativity of This Checklist

I decided to experiment with a checklist that moved us from considering 15 aspects of one type of creativity to 1500 aspects from 20 types of creativity. This expands types of creativity by one order of magnitude, approximately, from 1 type to

20.  This expands aspects in total by two orders of magnitude approximately, from 15 to 1500.  This expands aspects per type from 15 per type to 75 per type, or half an order of magnitude.  This limit was arrived at via gradually adding types of creativity to the checklist and gradually expanding the level of articulation for each type, that is, expanding the number of aspects used to define each type.  As both of these were increased, the following were measured, for users of the checklist:

- time to complete filling in the checklist
- number of skipped items in the checklist; number of extremal items as portion of all
- number of items marked as unclear, un-understandable, or ambiguous enough to be difficult to fill in meaningfully for subjects (subjects were instructed to do this)
- reliability, measured as portion of prior answers reproduced weeks later when filled in for the same subject area by the same person
- validity, measured as levels of creative variables marked on the checklist, for each of various types of creativity, when applied by subjects to areas having very narrow well known types of creativity and when applied by subjects to areas having great creativity or no creativity.

The models of creativity, as they were added to the checklist, were deliberately made various--that is, when previous models seemed abstract, concrete new ones were added, when previous models seemed scientific artistic ones were added, when previous models seemed complex and large simpler smaller ones were added.  In addition a model of 60 models of creativity, ten sets of six models each, was used to insure that at least one model from each of the ten groups was included.  That model of 60 models starts with an initial type called "catalog" models of creativity.  These are particularly wide-ranging, having many individual factors (from 64 to 85).  Several of these wide-ranging models of many variables each, were included.  As initial trial versions of the checklist got applied to diverse creative and non-creative cases, areas missing from the checklist were sensed, and new models added to fill such sensed gaps.  A brief description below is given of the 20 models now in the checklist in one form of another.  For more complete description of each model see Greene, 2003.

## The 60 Models Model of Creativity--the Universal Type

This is a model of models of creativity, combining 60 of them found in interviews of 150 very creative people in 63 different parts of society (Greene, 2005), amplified by matching models in the literature on creativity of 40 different academic fields (over 2000 books surveyed, see the bibliography of this book).  The 60 models are organized as ten groups of six models each.  These sets of six models are ordered from large scale through middle social scale, to small within the mind cognition scale.  Some see creativity as an emergent properties among interaction populations and cultures, some see creativity as a non-linear property of the universe itself (which after all, invented human beings via inventing the natural selection process), and some see creativity as processes going in within individual human minds.  These 60 models are dual--each of them purports to explain all creativity of all types and yet each of them is so distinct in its emphasis and approach to creativity that they each define separate "types" of creativity, that is, separate ways of arriving at creations.

## The 64 Steps of Becoming Creative and the 64 Steps of Creating Models--Catalog Types

This is the first model within the 60 models of creativity model dealt with just above.  It comes from gathering all the recommendations on how to make oneself more creative from 150 interviewed creators and 2000 books and grouping such suggestions by similarity into a hierarchy of categories, then regularized by imposing the same branch factor and principle of ordering throughout the hierarchy, on all levels and across all levels.  It breaks down itn 64 steps for becoming a creator, and 64 steps for creating itself.  This model of creativity is the only model of the 60 models that actual creators strongly identify with and quickly study in detail.  It connects more strongly with actual creators than any other of the 60 models--I am not yet sure why.

## The 85 Creativity Conditions of the Darwinian Systems Model of Creativity--a Catalog Type

This is the only model of the 60 models formed by combining two simpler models--the systems model and the darwinian model.  From the system model we get person, work, field of people, and domain of knowledge; from darwinian processes we get variation, combination, selection, reproduction.  This makes a four by four matrix, the "work" column of which is in reality, cancelled (generalizing across all creative work types is a bit hard and overly general in the results it produces).  85 conditions--cognitive, zeitgeist, and lifespan--that foster, for example, variation in persons creating, that foster, for another example, reproduction in domains of knowledge--are

specified in the model.  This model was the principal way that excess individualism in viewing creativity was overcome in Western cultures, allowing Eastern ways of creating for the first time to be seen, examined, and respected in the West.

### The 25 Steps of the Insight Model of Creativity--a Mind Type

This is the most interior of all models of creativity--and one of the most common.  Folk thinking sees a connection between sudden unexpected "insight" events and creating.  This theory shows that such unexpected and sudden happenings of "insight" are always the result of months or years of hard effort, driving the creator to despair over all he knows as try after try fails--it is the accumulation of such overwhelming failure that opens the doorway to "insight" happenings.  So insights are "sudden" in one aspect but long-term build ups in another aspect, the latter enabling the former to "happen".  This model of insight also sees alternating engagement and detachment, driving towards subinsights (like, my current frame will never work, like all that I know will never work, like what other frameworks have I never tried, till the final solution insight appears), and driving towards more and more abstract representations of problem situations in the form of indexes (of problem aspects of a situation, of difficulty generating aspects of problem aspects, of exactly why particular attempts failed, of exactly what in particular attempts failed and how, and so on).

### The 11 Dimensions of the Population Automaton Model of Creativity--a Systems Type

This model achieves a non-individual view of creating of a different sort, a non-linear system dynamics sort.  Populations of agents interacting till patterns emerge suddenly, as non-linear system "avalanche" events, similar to joke punch lines that, by suddenly switching frameworks of viewing entirely, give a totally new coherence to a set of prior events in the joke, constitute creativity in this model.  You tune interactions among these populations of ideas in minds, of works in fields of people, of domains of knowledge in society in various ways till better-than-expected results emerge.  Instead of designing what you create, you design a system of interacting population elements from which some things better than you want emerge, after careful tuning of interactions, and pruning away of noise amid the emergent solution.  Creativity is just like religious grace events here, you can prepare the way for them but you cannot make them happen.  You merely expose yourself best to the possibility of making them happen and seeing them when they do happen, and wait for events to transpire.  This captures the essential non-linearity nature of creating.

### The 7 Dimensions of the Culture Blending Model of Creativity--a Blend Type

Immigrants, youth, newcomers to a field, and the like are disproportionately represented among creators of all sorts.  Somehow knowing too much about a field or mastering its contents too well reduces creativity, though, on the contrary, people not masters of its best past accomplishments seldom create.  Also, the borders of empires, the ends of empires, the cosmopolises where multiple ethnic groups, cultures, and professions mix are places where disproportionate creativity appears.  Clashing diverse viewpoints and ways to see the world spawn and sponsor creativity.  Single right viewpoints, on the other hand, deny and destroy the possibility of creating.  What is it exactly about two cultures clashing that makes people--immigrants, youth unsocialized to a field, newcomers from outside the field--more creative than good citizens of a field?  This model presents seven very particular capabilities wherever cultures clash that foster creativity.  These can be measured, fostered, and improved by easy practical measures.  Unfortunately the emotional work of tolerating great diversity is beyond the ambition and capability of many normal citizens and people.  They wish to be right rather than diverse, solely correct rather than creative.

### The 16 Parts of the Subcreations Model of Creativity--a Purity Type

The subcreations model of creativity is based on observation that creators create a lot of lifestyle and workstyle conditions and tooling before they actually create a creative work of any sort.  There seems to be an ever-expanding scope of sub-creations that prepare the way for eventual usual creations.  It may be that enabling and fostering such divergent ways of life and work is the primary vehicle for improving creative outcomes, since so much of social behavior and organizational requirements condemn and forbid such divergent ways.  One person one desk, not one person sixteen desks; one person one job per one year, not one person five companies two jobs per company per year--these foolish consistencies, assumed and enforced everywhere in contemporary societies possibly cut off all creative possibilities for most people.  The subcreations model of creativity suggests careful measurement, examination, and support for these smaller, preparatory divergences that enable later great creative outcomes.

## The 64 Dynamics of the Accelerated Learning Model of Creativity--a Group Type

This is a model of 64 ways that individuals and organizations learn in practical reality. It holds that creativity is merely the simultaneous presence of many of these forms of learning--how many forms, which particular forms, what kinds of creativity produced--are all valid issues needing further research. People who learn one of these ways at a time are uncreative. People who learn two of these ways at once are uncreative, however, people who learn X number of these ways, turn creative. People learning ways 1, 5, 8, 9, 12, 33, 35, 36, 44, 51 turn creative. Research to find what number X is and to find what particular combinations of learning ways suffice to make someone creative has yet to be done. However, biographies of creators and some autobiographies by them, strongly support this model, as they are filled with simultaneous diverse ways of learning somehow accelerating each other, making wholes much greater than their processual parts.

## The 64 Parts of the Traits Model of Creativity--a Catalog Type

This is perhaps the oldest model of creativity of the 60 models. It comes from hundreds of years of casual observation about the traits that make a person creative, the traits shared by creative works in particular fields, and the like. Grouping such traits by similarity and regularizing the hierarchical model that results produced this model. For many years creativity research was merely the generating of such lists of observed traits. After the number and variety of traits became large, researchers sought more cogent models that explained patterns and co-occurrences among these traits.

## The 64 Parts of the Question Finding Model of Creativity--a Catalog Type

This is perhaps the second oldest model of creativity of the 60 models. Many people, creators and students of creativity, have noticed that the same effort expended in finding a creative question and in inventing a creative answer to a question, does not produce the same result. Investments in finding creative questions far outperform investments in coming up with creative answers to known questions. Like real estate, value in creativity is location, location, location, in this sense. This model categorizes by similarity hundreds of observations of principles by which people find great questions to tackle.

## The 96 Processes of the Scientific Creativity Model--a Catalog Type

Scientific creativity is the touchstone of all creativity, because, in part, it uses rigid procedures but in inspired unusual ways, and, it achieves high leverage, single equations discovered resulting in harnassing the nuclear power of stars, for example. This model uses the categories of the darwinian systems model above, to categorize guidelines on how to be creative from the world's leading scientists and Nobel Prize winners.

## The 64 Sources of Entrepreneurship--a Knowledge Evolution Type

Inventing businesses, especially new high technology ones, is a popular contemporary form of creativity, offering wealth opportunities to middle class people with good minds. A lot of recent research has been done on why people become entrepreneurs and this has uncovered a lot of diverse reasons people become "business creative". This model categorizes hundreds of diverse such reasons into a coherent set of categories.

## The 64 Functions of the Performance Model of Creativity--a Self Type

The occupation of "singer" is a creative occupation but most singers are distinctly and completely uncreative people. Indeed, the task of singing is uncreative in its core--repeating accurately music someone else wrote, and words someone else wrote, so the song can remind audiences of parts of their own experience and past. If there is creativity in performance, just what is it? We have all experienced it, because we all remember fondly great performances we happened to encounter and how greatly they differ from casual performances (however outrageous the ticket prices for both). This model defines 64 differences of great performances from casual ones, hence, it defines performance creativity, whether business performance, singer performance, actor performance, lover performance, or others.

## The 64 Functions of the Composing Model of Creativity--a Self Type

The writers of the US TV epic comedy "Cheers", seeing from focus groups that audiences wanted Sam and Diane to get emotionally close, chose to break them apart with the appearance of a different lover for Diane. They chose to compose something that surprised and frustrated audiences wants. They did not satisfy customer wants but radically departed from them, producing, thereby, revival of the show and expansion of its audience. The art of composing

is tricky in this and 63 other ways, outlined in this model.

## The 64 Purposes of All Arts Model of Creativity--a Social Type

Great art does some things to people. Various artists, works, critics, and appreciators of arts have written what they think these things are. By collecting all of them across all art forms, a model of what purposes all arts try to evoke in people resulted. We can use it to measure how great any one art is by how many and which of these 64 functions it evokes. This model fits our intuitive appreciation for moments or art encounters that open whole new worlds of experience and reflection and appreciation of value to us, where we expected something much narrower, and more focussed.

## The 64 Stages of Being Creative from the Creating Power Models of Creativity--a Self Type

Power is not creativity but creativity is a kind of power, what kind of power. This model provides an answer, showing the kinds of power of each stage of creating. This model, uniquely among all 60 models, crosses levels from within the mind to social groups to non-linear systems to abstract universal processes. It is a model of the steps of creating with each step simultaneously articulated across these size scales--it is a fractal model in this sense. It expresses the emotional stages of being creative, found in each sequential step of creating. It captures the emotional journey of creating--indeed, it was built by combining creator observations about the emotional content of the various stages they went through when creating.

## The 64 Invention Operations of the Information Design TRIZ Model of Creativity--a Purity Type

The Russians, not famed for creativity, nevertheless, in their imperial humongous-size centralized ponderous way managed to project world class scientific education, vast technology development, all the while ignoring civil society, welfare, decency, and ethics. One offshoot of this was a guy Altshuller who studied patent applications noticing that every invention quickly was modified in the same 40 ways to come up with further inventions. You could capture 90% of all patent contents by just blindly applying the same 40 operators to any single new invention, elaborating it in 40 rote ways. This TRIZ model (the letters stand for Russian language terms) has been widely taught world wide. However, invention and technology patenting has evolved beyond Altshuller in internet, cellularity, Japanese technology development method ways, among

others. Thusly, this model updates Altshuller's 40 ways to present 128 operators that can be blindly applied to any one invention to turn it into 128 further inventions. This model captures the inventor aspect, subculture, and part of overall creativity. The creativity operators in the version of the model presented below have been generalized to apply to novel writing, political election winning, scientific discovery, as well as inventing.

## The 256 System Effects of Non-Linear Systems Models of Creativity--a Systems Type

Wolfram makes a convincing argument (save for quantum effects entering human technology) that the computational complexity of human minds is not greater than the computational complexity of many systems in nature, perhaps most, so we will never find short cut ways to predict the outcomes of such systems. This limit to scientific discovery and knowledge suggests that creativity of the universe and its contents, largely non-linear systems of myriad sorts, will constantly break in, surprise, and discomfit us. Creativity is not just revenge--we humans devising non-linear human systems to surprise the world with--but also we humans anticipating non-linearities breaking through into the systems of our lives and blunting ahead of time their disruptive potential. We create when we blunt destructive creativity injections of the universe in human affairs. Thus a map of the system effects of universal non-linearities as they break into various contexts of our lives, allows us to be creative by anticipating and redirecting or blunting such effects.

## The 64 Dimensions of Any Culture Model of Creativity--a Blend Type

When the culture of total quality management impacts the culture of US management, when the culture of Disney products impacts the culture of French consumers, when the culture of Joe impacts the culture of Morgan Stanley's Brazilian office--what exactly is impacting what? Without a specific, exact, detailed map of what in culture A impacts what in culture B, we can do nothing practical and useful with culture blends. A model of the dimensions that define cultures, and how they differ from each other, has to be general enough to apply to lots of specific cases but detailed enough that it guides decisions and practice. The 8 factors of Hofstede, Bond, Hampden-Turner, and Tropenaars, for example, are cogent enough to be easy to learn but useless practically as they are so general that when, where, how, and why they apply to particular cases can never be guessed--Japanese are loyal to social

roles not persons so who should I ask to pass me the pepper, for example. We need intermediate models, beyond 8 dimensions, but less than 100 dimensions. I suggest 64 dimensions, well orderd into sets of 4 and 16, and present the best model of such dimensions for characterizing and distinguishing cultures, from the literature.

## In any Organization or Person: What Supports and Hinders the 1500 Checklist Creativity Items

To use the Creativity Checklist presented in this article requires articulating the "what" whose creativity is being scored on the checklist items. Take San Francisco, Xerox PARC, the Toronto Symphony Orchestra, and Okinawan Pop Music--how do they score? At the level of comparing:

- how many models of creativity,
- what models of creativity,
- how many aspects of any given model,
- what aspects of any given model

across these four--a city, a research lab, an art performer, a genre of music--general "creativity" scores on the checklist would be useful. If San Francisco, Boston, Tokyo, and Paris were compared, such scores would be even more useful. At the level of trying to improve the creativity of a city or a research lab or a performer or a genre of music, scores comparing city with city, lab with lab, performer with performer, and genre with genre would be useful, but scores comparing a city with a lab with a perfomer with a genre would not be useful. If one city is strong in one model of creativity while other cities are weak in it, that draws attention to how the weak cities might improve by looking at how the one city achieves its strong showing in that one model. At the level of trying to improve the creativity of a city, lab, performer, genre, and so forth, another level of results would be more useful--what aspects of all the cities might be improved. So far, in this paper, there is nothing about what aspects of a city, lab, performer, or genre shouldl be separately scored on all the 1500 items of this article's checklist.

A model of social processes, shared by all social entities--humans, groups, firms, societies, civilizations, institutions--was developed in the second half of the 20th century by white North Americans and later extended by people from East, South, North, and Central Asia (Greene, 1999). The full model has 256 processes in it, but usually only the highest level (most abstract and general) 64 are

used, 16 processes each under economy, polity, culture, social change. It makes a lot of sense to examine how economic, political, cultural, and social changes aspects of cities and labs support each of the 1500 checklist creativity items. It is a bit obscure how examining such aspects of performers and music genres support the 1500 will benefit us. A bit of practice, using the social process model, however, clears this up, showing just as much benefit by examining the economic aspects of orchestras and genres of music affecting creativity items as for economic aspects of cities and labs, for example. Social processes are not all, however. There are 64 processes by which organizations learn. We can examine how each of them supports or hiinders the 1500 creativity items in the checklist, in general, and abstractly, then we can examine which of the 64 organizational learning processes are robust in a particular city, lab, performer, or genre and how those particular learning processes affect each of the 1500 creativity checklist items. We can do this for models of not just organizational learning but all sorts of other such categorical models. One of many worth mentioning is the model of 64 dimensions of culture. If we characterize the culture of San Francisco, Xerox PARC, the Toronto Symphony Orchestra, or the genre of Okinawan Pop Music along those 64 dimensions, then examine how those culture traits impact the 1500 creativity checklist items, much can be learned about the creativity effects of particular apsects (dimensions) of a entity's culture. So, among many applicable models, we have social processes, organizational learning processes, and culture dimensions.

If I have 64 social processes of San Francisco examined as to how each of them affects each of 1500 creativity factors in the checklist, that is a big matrix--64 x 1500 = 96000 intersections in the matrix. We can imagine, however, 64 teams, one for each social process type of San Francisco (or any other city), with each team spending two or three days scoring how its assigned social process supports or hinders each of the 1500 creativity factors in the checklist. 64 such teams working together could generate an essay, actual measures they invent, and scores for all 1500 items in a book form in two or three days of intense work together. The same goes for major research labs--teams for each organizational learning or social process, checking their assigned process against 1500 creativity checklist items, then writing an essay, from invented measures, and item scores. Such events have already been held.

## Using This Checklist

The 1500 middle column items can be left unmarked or X-ed out, that is, they can each be marked as "present" or "absent", "funded" or "unfunded", "common" or "rare" in this binary way. In addition, each of the 1500 middle column items can be scored from 0 to 10 with 5 being neutral in the fourth column. It could be how the economy of X scores on each item, or how the polity of X, or how its culture scores, and so on for all 64 social processes. It could be how the vicarious learning process scores, or the legitimating peripheral participation process scores on each item that is scored. That is, the entire checklist can be filled out once for any one such aspect of a group. If you wish to measure 64 aspects of the group, the entire checklist gets filled out for each of those 64 aspects, or a total of 64 times. Finally, there is a fill in space in the fifth column of the checklist, into which any of a number of things can be put. Explanations of all items scored 1 or below or 9 and above, all extreme items, can be put there, or free form unrestricted comments of any sort, or recommended ways to improve scores that are low on any item, and any of a number of other rather obvious possibilities.

Experience shows that exposure to a one hour video tape explaining all 1500 items, suffices to enable anyone to take the checklist and score all 1500 items, at an average rate of 100 items scored/filled-in/X-ed per hour, taking 15 hours to complete scoring. This is, however, hard work if done alone, so the perferred method is not using the videotape and not scoring alone but entire groups, each member of which is assigned to score a different dimension of an organization, doing their scoring together, right after each item is explained by the author of this paper, over a two or three 8-hour day period. This has the side-benefit of training everyone in 1500 creativity dynamics while developing accurate scores and accurate shared understandings of what each of the 1500 items means. This is particularly important as a method of scoring the checklist, when different people are assigned to score different aspects of their organization on the 1500 items--because this second method exposes everyone at the same time to a common understanding of the meaning of each item with live opportunity for feedback on what each item means. Without this, there is danger of scores differing not because of different creativity conditions but because people understood items differently--a clear threat to validity of the checklist.

Note, the 1500 variables on this checklist have not been validated by solid research as of yet. That sort of validation by research is not likely to eventuate anytime in the next twenty years. The amount of work involved in validating 1500 items as varied as these is immense and beyond the financial capacity of all but the most famous (and busy) research universities. Using checklists of variables supposed by various theories and theorists, practitioners and consultants to affect creativity is risky, but not as risky as having no checklist at all for hundreds of years till funding permits immense research work to validate each of 1500 supposed variables. Use of this checklist in its present form is the lesser of two evils, not an optimal state of affairs.

## Some Initial Uses of this Checklist

The research literature on creativity has not achieved concentration, focus, and convergence on well established truths, for the most part. There are some powerful regularities uncovered, like the linear relation between hours of practice and fame, and the linear relation between creative works produced and fame. However, for the most part, the research on creativity is fanning out, one model leading to more other models, rather than models being tested thoroughly. The deep reason behind this is an illusion when we use words like "creativity". Because we have a word for "it" we imagine it as one thing, having many forms perhaps. This should not be assumed--it is a matter needing empirical testing to determine whether creativity is one thing or many, and if many, how many things of what sorts. Each model, already published, of what creativity is, constitute a way of viewing what creativity is, with strengths and benefits compared to other viewpoints. When a number of such models are used, and when such models differ greatly from each other, chances are more of creativity will be seen and noticed. When few such models are used or when the ones used do not differ greatly, little about creativity will be noticed. Checklists, then, can be used to tell us which models, and which combinations of diverse models, match what actual creators of various sorts experience creativity to be, and experience their own particular processes of creating to include. This should be carefully done, however, as creators may operate based on highly abstract creation operations that they are unaware of using. Just because a creator likes the factors of a particular creativity model and checks them as things he uses, in a checklist, does not mean that unchecked items from more abstract models in the checklist, are not there. It just means the creator is unaware of them.

To use checklists to get beyond measuring what models of creativity actual creators recognize and affirm, we have to reword checklist items so as to get at how abstract theory constructs might actually appear in the work of actual creators, so that checked items truly indicate presence of the abstract operator. Checklists need modification, especialloy where constructs of models on them are highly abstract, so that respondents, not checking something, are not checking it because it is truly not a part of their work, not not-checking-it only because they do not understand what something that abstract has to do with their work. When multiple models of creating are tested together in one checklist, one finds, universally, that more concrete models are more present and more abstract models are less present--this is false, it rather reflects ease of recognizing concrete factors compared to abstract ones. To avoid getting such results, one has to reword factors for abstract models in form likely to be encountered by creators. This often requires several items on the checklist for any one abstract construct from a model.

Beyond research, there are educative uses of checklists on creativity. Exposure to dozens of models, all of the same phenomenon, opens up to view all sorts of dimensions and operations of creating new to creators filling in the checklist. There is a distinct possibility, probability even, that such exposure increases the creativity of actual creators. Just as meta-cognition, cognition aware of how it is working, improves intellectual performances of various sorts, meta-creation, creation aware of how it creates, may improve creation performance of various sorts. Creators who fill in comprehensive plurform creativity checklists may end up more creative as a result.

Beyond research and educative effects, there is the issue of enabling and supporting creativity in organizations and workplaces and lives. The hinderances and supports for creating of any one group, place, approach, person can only mean something useful when "what creating is" is specified precisely. It is inevitable that conditions that support one form of creating or one step in that form, hinder other forms of creating or other steps in that form. Nothing supports creativity in general. Researchers, for example, found that better connections, communication, tools for cooperation and the like, from modern computer, communication, and software technologies ruined the concept design phase of product development but helped the concept prototype resourcing stage (Gallagher, 1988). Checklists, like the one in this article, allow how

any one aspect supports or hinders 1500 aspects of creating to be measured. If such checklists are filled in dozens of times, one time for each of dozens of aspects of the environment or work or life, then they show how all aspects of an organization impact all 1500 aspects of creating captured in checklist items. This is a lot of work, but it is at this level of detail that specific improvements, that do not hinder other aspects of creating, are identified for improvement.

## A Recommended Sequence of Uses of the Creativity Checklist

Having had some years of experience with previous versions of this checklist, I have gradually converged on the following sequence of uses.

1. teach, in the order presented in the checklist, all 20 models of creativity and all their 1500 constituent factors--*to teach creativity in the context of factors that cause it and outcomes included in it, while presenting plural competing models of it*

2. require people to fill in each checklist section, corresponding to a particular creativity model, scoring themselves on each item--*to ground each checklist item in the experience of the people using it*

3. require people to fill in each checklist section, corresponding to a particular creativity model, scoring each other (one other student each) on each item--*to see the difference between how we score ourselves and how others score us on the same 1500 creativity checklist items*

4. people fill in the entire checklist, applied to one organization they all share (college, nation, profession, etc.), four times, once each for the economics, politics, culture, and social change aspects of that organization they all share--*to see how fundamentally different dimensions of an organization differ in the type of contribution to creativity they make and the amount they make*

5. people get others holding responsible positions in that organization the people all share to fill in the checklist four times, once for each of the economics, politics, culture, and social change aspects of that organization--*to see how insiders differ from outsiders in perception of what contribution to creativity comes from each fundamentally different dimension of the organization*

6. people, organized in groups, interview several creators whose creative works highly impress

them, scoring the creator and/or his work on all 1500 checklist items**--to see how well creativity that excites people shows up in unique patterns of items checked on the creativity checklist**

7  people identify highly effective people, highly educated people, highly creative people, and great leaders from the same organization and score all of them on all 1500 checklist items**--to see how well scores on the checklist**

*measure creativity instead of other forms of excellent performance*

8  find parts of an organization favoring one model of creativity, then other parts favoring another model, and still other parts favoring still other creativity models on the checklist, then get people in those parts of the organization to fill in the entire checklist**--to see which models of creativity participants in an organization see and use**

## OVERALL CREATIVITY CHECKLIST, 1526 Basic Items from 20 Models of Creativity,
### Non-Consulting Public Version, 18 December 2004
60 Models of Creativity, 64 Steps of Becoming Creative, 64 Steps of Creating, Darwinian Systems, Insight, Population Automaton, Culture Blending, Subcreations, Accelerated Learning,Traits, Question Finding, Scientific Creativity, Entrepreneurship, Performance, Composing,  Art Purposes, Creation Power, Info Design TRIZ, System Effects, Culture Dimensions
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| | | 60 Models of Creativity | |
|---|---|---|---|
| CATALOG | Recommendations | 1.  I collect recommendations from mentors, peers, and others on how to be creative in general or on how I can be more creative, organize them, and regularly review them to improve the creativity of my work. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Traits | 2.  I collect traits that creative people, works, domains, and fields have, organize them, and regularly review them to improve the creativity of my work. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Question Finding | 3.  I collect ways that creative people find great questions to tackle, organize them, and regularly review them to improve the creativity of my work. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Darwinian Systems | 4.  I notice how persons and works in my domain, and how my domain itself and the people who run it, all four, foster the basic evolution functions of variation, combination, selection, and reproduction.  I use the result to position myself for maximal creativity. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Combined Thought Types | 5.  I select certain types of thinking and develop them individually as well as exploring possible combinations of them till creativity results. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Garbage Can | 6.  I use nearly all fundamental parts of my existence from personal identity to social dynamics around me to ways of work to develop partial creations of life and work style that become tools for making creative works. | 0..1..2..3..4..5..6..7..8..9..10 |
| BLEND | Culture Mixing | 7.  I use the various cultures I have been exposed to, have within me, or live among now, blending them till creation emerges. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Discipline Combines | 8.  I use the various fields I have been exposed to, have mastered, or live among now, blending them till creation emerges. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Tuning | 9.  I position myself between extremes and polar opposites, tuning my approach toward subtle points between extremes where creativity happens. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Paradox Doorway | 10.  I seek out paradoxes and force myself against them till they, in turn, force my thinking out of its ruts and into lateral, peripheral new paths that open up creativity to me. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Scale Blend | 11.  I seek out phenomena on multiple size scales, aligning them by similarities of various sorts, till phenomena on one size scale solve major problems on other size scales. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Idea Marketing | 12.  I market ideas within my own mind to various viewpoints I can develop mentally, then select best fit ideas to market, again within my own mind to representations of actual social market forces in my field, till I come up with a creative work as the package that transmits that idea to those social market forces in my field effectively. | 0..1..2..3..4..5..6..7..8..9..10 |
| SOCIAL | Community of Ideas | 13.  I assemble possibly relevant ideas and let them interact as their own natures dictate, noticing how they pair up, conflict, sequence themselves and in general inter-relate, till powerful interesting such idea assemblages come to my attention as possible creations. | 0..1..2..3..4..5..6..7..8..9..10 |
| | System Model | 14.  I influence the social judgement dynamics of that field of people who judge what works are creative or not in the domain in which I work by tuning the dialog among myself, my creative work, those judges, and rules of the domain till creation appears. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Social Computation | 15.  I am in the midst of a community of people among whom flow various social computations having inputs, outputs, and processors consisting of layers each more flexible than the next of hardware, firmware, software, in each layer of which are operations each having input, output, and processor (repeating the above endlessly).  I manage that flow till at where I am in the community a critical mass of ideas appears that becomes creativity. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Social Movement | 16.  I am in the midst of a community of people among whom frustration builds up till released into a social movement of new ideas by the slightest particular new idea, avalanching the entire community into a new overall idea configuration. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Space Sharing | 17.  I share the same intellectual space with a community of like-minded others, inventing tools that intensify that sharing and  pursuing competitively similar intellectual goals till rather unpredictable slightnesses among us and the ideas we work with cause creativity to appear somewhere among us. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Participatory Design | 18.  I notice how in modern societies specialization of function has stripped certain kinds of thought, thinking, collaboration, feeling, from entire populations concentrating it in profit-making centralized industries and create by undoing important pieces of that harmful over-centralization and over-concentration. | 0..1..2..3..4..5..6..7..8..9..10 |

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| **GROUP** | **Mass Solving** | 19. I define a certain solving process and get many people to simultaneously apply it while interacting with each other tuning their motivations, interactions, and configurations till creativity emerges. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Process Deployment** | 20. I come up with one interesting process after another and deploy them across certain social configurations of people, tuning motivations, interactions, and configurations till creativity emerges. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Optimize Ideal Flow** | 21. I identify the intended flow of energy through particular systems and optimize the design, environments, conditions, and controls of the system to get as close as possible all of the energy to flow in the intended path through the system till performance or qualities never seen before emerge. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Meta-Cognition** | 22. I organize my tools, facilities, collaborators, associated institutions and relationships for heightened meta-cognition--awareness of how we think and work till creativity emerges. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Social Connectionism** | 23. I work in certain idea layers and social relationship layers combining and selecting what comes both to my conscious symbolic mind and what comes to my unconscious associative mind, coaxing ideas and relationships through phase changes till creative new patterns emerge. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Demystification** | 24. I return power to people who have been habituated to giving power to things outside themselves via creating works that communicate a demystifying-of-the-world-message-- that makes people conscious of how they have given power and options to things outside themselves that rule them unwholesomely. | 0..1..2..3..4..5..6..7..8..9..10 |
| **KNOWLEDGE EVOLUTION** | **Dialectics** | 25. I find myself embedded in large evolving forces and patterns, defining myself by opposing large established ways, as younger ones gradually define themselves by opposing my work as large established way. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Compilation Cycle** | 26. I work with many different traits that knowledge has, compiling knowledge from one format to another watching how that affects those traits till gaps, distortions, elaborations or the like in those traits reveal creative possibilities to me. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Relocating Idea Ecosystems** | 27. I work in several different ecosystems of ideas and by bridging particular ideas from one ecosystem to another or from one idea ecosystem to a different social ecosystem, I turn them into creations. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Idea Waves** | 28. I find myself in an ocean of ideas where waves of coherent different sets of ideas wash over the diverse parts of society, including me, regularly such that by setting up tools and workstyles that catch these passing waves and combine ideas across them, I end up creating. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Fractal Recurrence** | 29. I live among different schools of thought that arise and oppose one another, fuse and split, so that I use how very abstract idea polarities and oppositions keep reappearing through time and on different scales of thinking to, by doing the next inevitable step in this process, create. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Simple Programs** | 30. I analyze situations till I find a way to model all the interesting and important complexity of the situations using the simplest thinkable system types yet capable of generating all that complexity, then by changing such simplest system parameters I generate hosts of creations. | 0..1..2..3..4..5..6..7..8..9..10 |
| **EXPERIMENT** | **Solution Culture** | 31. I notice how people often choose exactly those solutions guaranteed to perpetuate their problems, how failures and missed opportunities are not accidents so much as logical extensions of entire "cultures of failing" that build up unseen in people--by reversing traits of such failure cultures I invent and apply solution cultures that then create solutions to long standing recalcitrant problems. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Policy by Experiments** | 32. I try certain strategies or policies in order to generate data about how reality is really working, then use that revealed data to redefine the problem and devise better strategies and policies revealing in turn better data on the basis of which to devise better strategies and policies, repeated endlessly till creation emerges. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Creation Events** | 33. I gradually find and combine components of an idea or approach, assembling various people, resources, ideas into a series of events, designed around particular idea or people combination procedures, taken from experts, from which emerges a final creation. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Fractal Model Expansion** | 34. I organize ideas into multi-scale hierarchies, tightly ordered vertically in layers and horizontally in idea-categories, then I expand the geometry configuration of the ideas, inventing new ideas at every level and category, coming up with dozens of creations at once. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Social Automata** | 35. I tune the interactions among many interacting people, arranged in certain neighborhoods and trained in certain behaviors of interacting, adjusting connectedness, diversity, and deployment of initiative-taking in the system till creations emerge. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Create by Balancing** | 36. I envision my domains of thinking and work using very comprehensive abstract models to spot slighted dynamics and over-emphasized one, then create by devising tactics that rebalance the domain by emphasizing slighted dynamics on my abstract models or slighting over-emphasized ones. | 0..1..2..3..4..5..6..7..8..9..10 |

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| **SYSTEM** | **Non-Linear Systems** | 37.  I build models of my domain as a network of non-linear interactions among populations of agents with butterfly effects, system avalanches from one attractor to another, first mover advantage, and I tune interactions among agents till better than expected results simply emerge from sudden system-wide avalanche events. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Darwinian** | 38.  I set up competing ideas, approaches, relationships, or events, such that traits of successful ones combined with variants I invent populate a new population of competing entities, the whole system evolving till a creation emerges from this natural selection like process. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **System Effects** | 39.  I, like everyone else, suffer from surprises as system effects, unanticipated and unanticipatable in the non-linear realities of our lives, intrude, but, unlike everyone else, I catalog, explore, and develop tools for using these non-linear effects till they become dependable creations. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Surprise** | 40.  I catalog and study system effects and I catalog and collect unusual frameworks for viewing matters in my domains, using the former to anticipate surprise types and the latter to reveal surprising phenomena, till one such surprise turns into my creation. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Adjacent Beyond** | 41.  I start with small tiny creations, that accumulate and combine with each new such creation I make, to make myriad new combinations, some of which are creative, which when identified, pruned of noise, and combined with my past creations, spawn still more combination possibilities, some of which turn out to be creations, exponentially continuing my stream of creations. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Population Automaton** | 42.  I manage populations of interacting ideas on multiple levels of ideas-in-mind, feeling responses, performance moves and improvs, parts of organizations till insights as non-linear system avalanche events happen, generating creations. | 0..1..2..3..4..5..6..7..8..9..10 |
| **PURITY** | **Subcreations** | 43.  I invent little tools and processes, decor and arrangements of my personal living and workplaces to help me create still more creative tools, processes, decor, and work arrangements, in a continuing exponential stream till later ones turn out to be creations or to enable me, using them, to create what others, lacking such tools and work arrangements, cannot imagine or produce. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Productivity** | 44.  I generate a lot of ideas and throw away the bad ones, and, by generating ways of producing more ideas than nearly anyone else in the same periods of time, and accumulating experience from throwing away bad ones, more and more of my ideas become creations. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Performance** | 45.  I understand that I am a performer, and my performances are the ideas I produce, which perform before various audiences, using an anthropological stance of seeing the limitations of culture of my audiences and the theological stance of seeing the limitations of life itself and how my audiences position themselves within them to make my ideas creations. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Influence** | 46.  I seek to influence people and the world via explosively producing disillusionment with existing frameworks with what I create which must be timed and positioned, packaged and expressed so as to influence the field of people in my domain. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Investing** | 47.  I manage a portfolio of diversified investments of time, idea, and effort in parallel simultaneous projects attempting unlikely outcomes, mixing venturesome and conservative strategies, till one is a hit, and turns creative. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Info Design** | 48.  I find myself in webs and configurations of structured information such that particular structural features of these information distributions result in creativity--so I work to locate such webs and locate my self and my work in such webs till I am where creativity emerges in them.  I study operations on accumulated past creations that produce new ones then extrapolate them to invent my own creations. | 0..1..2..3..4..5..6..7..8..9..10 |
| **SELF** | **Courage** | 49.  I have the strange ability to fully appreciate the worth and inventiveness of others and traditions around me while simultaneously challenging and overthrowing all of that in everything I do, resulting in occasional creations where my challenges get accepted. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Anxiety Channel** | 50.  I notice how the fundamental anxieties of existence inevitably get side-stepped, omitted, and slighted by people in my domain and the works they generate till I spot such slightings and by correcting them reconnect my domain to the deep realities of life, hence, a creation. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Extended Self Development** | 51.  The first creation I made was myself, which I made by undoing automatic parts of me put there by where and how I grew up, substituting the best from history and the contemporary world, and continuing this invention of myself seamlessly turned into creating in every field I entered as the idea of extending my self via works I create. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Interest Ecstasy** | 52.  I pursue interest in everything I do, balancing myself at the very edge of all my capabilities and motives, till I am transported beyond myself where forces of the universe take hold of me and use me as a vehicle for their own creating. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Career Invent** | 53.  I create my self, then I create my own career through this world, then as I transition to bolder and more interesting career paths, I run out of pre-made ones and start inventing new career paths never seen before, till one of these transitions becomes creation. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Performance Creativity** | 54.  I get ideas to perform before me till one set of them captures my interest then I organize ideas into performances before others in the form of works that audiences respond to till creation emerges. | 0..1..2..3..4..5..6..7..8..9..10 |

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|---|---|---|---|
| **MIND** | Insight | 55. I alternate engagement and detachment as I apply known frames to a challenge, till I run out of existing frames and have to invent new ones, accumulating failures till they begin to specify, inversely, what eventual solutions must be like, till a slight new idea avalanches the entire set of ideas before me into an emergent sudden insight, that when carefully pruned of noise, reveals a creation. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Cognitive Operator Extremes | 56. I drive my use of certain common cognitive operators in the mind far beyond the intensities of use of them by others till results that no one has seen before obtain, some of them later being judged creative. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Making Sense | 57. I find nearly everything in the world flawed, sloppy, half baked, deeply unsatisfactory, and lacking basic sense, and I cultivate this negative vision capability till I see hundreds of ways to improve virtually everything in life around me, focussing on a few which I actually fix till judged creative. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Percept Invent | 58. I am drawn to the paradoxes, contradictions, gaps, omissions, anomalies, circular arguments in everything around me, seeing spaces where everyone else sees objects in scenes, till I dislocate my own perceptions enough that I see things to fix that when I fix them become creations. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Experience Realization | 59. I keep careful track of my experiences accepting no common thoughts, explanations, without making sure they make complete sense to me and completely explain my experience of things, till I find something everyone else accepts and depends on that has a deep gap in it that does not fit my experience--by fixing it I do what others judge creating. | 0..1..2..3..4..5..6..7..8..9..10 |
| | Substrate Update | 60. I watch as a never-ending stream of new substrates for doing functions enters the world, from global commerce, research, and technology every day and year, and observe when existing functions and institutions hold onto past substrates at great cost way past the time when there are good alternatives substrates--by pioneering replacement of past substrates for doing functions with new ones from that never-ending stream, I create. | 0..1..2..3..4..5..6..7..8..9..10 |

## 64 Steps of Becoming Creative

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|---|---|---|---|
| **Make Interior Room** | Create Emotional Space | 61. avoid dissipative encounters: just say no to excess activity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 62. manage necessities well | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 63. relinquish your insecurity-based need for praise | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 64. practice the courage of going your own way | 0..1..2..3..4..5..6..7..8..9..10 |
| | Find Your Self | 65. keep a feeling diary | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 66. develop expressive involvements | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 67. establish a personal people museum | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 68. daily life performances | 0..1..2..3..4..5..6..7..8..9..10 |
| | Liberate Your Self | 69. avoid: constrained choice, expected rewards, evaluation, peer pressure, surveillance | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 70. shrink: jobs, necessities, guilt, distraction | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 71. game the world: probe, text, experiment | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 72. make your days into life microcosms | 0..1..2..3..4..5..6..7..8..9..10 |
| | Create Sub-Worlds | 73. touch every situation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 74. be an environment | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 75. make network of project spaces | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 76. invent new types of creativity | 0..1..2..3..4..5..6..7..8..9..10 |
| **Make Exterior Room** | Locate the Creation Process | 77. structure and schedule for creation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 78. focus creative efforts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 79. build network in potential audiences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 80. de-personalize ideas, personalize timing | 0..1..2..3..4..5..6..7..8..9..10 |
| | Create Creation Environments | 81. put self in environments that grow you | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 82. create micro environments | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 83. sequence of your works becomes environment for audiences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 84. evolve kinds of creativity across the lifespan | 0..1..2..3..4..5..6..7..8..9..10 |
| | Focus Production | 85. exercise mental muscles | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 86. create swarm of potential projects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 87. 1 day = 1 creation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 88. network of enterprises rhythm | 0..1..2..3..4..5..6..7..8..9..10 |
| | Optimize Activity | 89. eradicate disliked activity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 90. focus on doing like to dos | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 91. invest in growth, build on weaknesses not strengths | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 92. collect intersections | 0..1..2..3..4..5..6..7..8..9..10 |
| **Perceive Paradox** | Mystify | 93. actively seek misunderstanding | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 94. zazen mundainities | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 95. enter fathomless fields | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 96. collect: anomalies, exceptions, paradoxes | 0..1..2..3..4..5..6..7..8..9..10 |
| | Demystify | 97. delay fear & anger reactions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 98. demystify fears | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 99. dismiss your natural solutions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 100. take plans as specs of where to improvise | 0..1..2..3..4..5..6..7..8..9..10 |
| | Balance | 101. avoid pressing | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 102. balance exploration & exploitation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 103. practice polarity alternation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 104. jointly express opposites | 0..1..2..3..4..5..6..7..8..9..10 |
| | Un-balance | 105. see points as trends | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 106. favor slighted poles | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 107. break equilibrium assumptions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 108. find contradictory assumptions | 0..1..2..3..4..5..6..7..8..9..10 |

| | | | |
|---|---|---|---|
| **Mental Travel** | **Diversify** | 109. keep surprise diary | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 110. smell & investigate the roses | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 111. improvise daily life performances | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 112. de-rut:  avoid solving routines | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Broaden** | 113. read outside of your discipline | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 114. link to connectors and cosmopolises | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 115. change to new field every 10 years | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 116. promote your self | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Extend Horizons** | 117. practice persistence | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 118. practice multi-year commitments | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 119. find baby fields | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 120. find baby tools & techniques | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Travel through Time** | 121. model past practice | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 122. legitimate peripheral participation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 123. notice destinal encounters | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 124. collect tools diachronically | 0..1..2..3..4..5..6..7..8..9..10 |

**64 Steps of Creating**

| | | | |
|---|---|---|---|
| **Create Creation Machine** | **Select Creation Type** | 125. expressive spontaneity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 126. skill virtuosity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 127. combinatorial innovation:  reframing knowns | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 128. manage emergence | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Invent Creation Tools** | 129. stretch mental detail handling capability | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 130. develop mind extensions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 131. turn encounters into theories and methods | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 132. make network of mental models | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Establish Creation Loops** | 133. inform-incubate loop | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 134. incubate-illuminate loop | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 135. illuminate-verify loop | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 136. verify-elaborate/communicate loop | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Recursively Create Problems** | 137. life process fractality | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 138. field process fractality | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 139. creation process fractality | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 140. insight process fractality | 0..1..2..3..4..5..6..7..8..9..10 |
| **Think** | **Generate** | 141. contrarian:  field reversal, counter-factuality, unlikelihoods | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 142. brainstorm:  split generate/evaluate, 1st private then group, take turns | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 143. prepare daily dream work | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 144. invent cross-field analogous methods | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Associate** | 145. try generative ideas over valid ones | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 146. establish low arousal conditions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 147. establish Jansian duality, bisociate, remote associate, try opposites | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 148. recognize patterns | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Decompose** | 149. rearrange problem elements | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 150. solve main elements, then details | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 151. relate classes then elements | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 152. find steps to reduce distance to goal | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Map Analogies** | 153. personal analogies | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 154. domain analogies | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 155. symbolic analogies | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 156. fantasy analogies | 0..1..2..3..4..5..6..7..8..9..10 |
| **Conquer** | **Commit to Victory** | 157. if resources lack, 1st step = create them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 158. be invention | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 159. teach without teaching | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 160. domain specific aesthetics | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Establish Work Discipline** | 161. dual investment:  build on strengths, fix weaknesses | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 162. practice recognition asceticism | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 163. measure creativity degree & progress | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 164. update your major bouts history | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Normalize Creativity** | 165. align structures to support creating | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 166. align processes to support creating | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 167. align events to support creating | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 168. align personalities to support creating | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Establish Flow** | 169. joy of effectance | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 170. use talent to create experiences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 171. develop interest in novelty for its own sake | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 172. develop invincibility conviction | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Manage Emergence** | Establish Population Automaton | | 173. automaton element sets complete | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 174. automaton element sets current | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 175. automaton element sets ordered | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 176. automaton element sets reconfigurable | 0..1..2..3..4..5..6..7..8..9..10 |
| | Establish Reflexivity | | 177. note planned goals | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 178. note emergent goals | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 179. note planned combinations | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 180. note emergent combinations | 0..1..2..3..4..5..6..7..8..9..10 |
| | Tune the Automaton | | 181. adjust what is near and far | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 182. adjust what is visible and hidden | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 183. adjust what is emerging and disappearing | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 184. adjust what is isolated and connected | 0..1..2..3..4..5..6..7..8..9..10 |
| | Prune the Automaton | | 185. slough secondary goals and results | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 186. slough marginal variables | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 187. slough obvious results | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 188. slough cumbersome methods | 0..1..2..3..4..5..6..7..8..9..10 |
| **85 Creativity-Fostering Conditions of the Darwinian Systems Model of Creating** | | | | |
| **Person** | cognitive process | What cognitive process generates variation in creative people? | 189. network of enterprises | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 190. immune to social conformist pressures | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 191. de-rutting by deliberate radical change of environment | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What cognitive process generates combinations in creative people? | 192. images of wide scope | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 193. selective combination | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 194. use of unusual metaphors | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 195. simultaneous presence of contradictions without choosing one pole as right | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 196. abstracting features of a problem sufficiently to see relations to other fields and problems and scan past experiences/cases | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What cognitive process selects combinations in creative people? | 197. select problems to work on for high leverage | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 198. selective coding (relevance) and selective comparison | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 199. building up failure indices as tries fail that further specify features of possible solutions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What cognitive process reproduces selected items in creative people? | 200. excite network with works | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 201. marketing by the person throughout their career | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 202. wide distribution of one's works then networking with holders of them to arrange higher market salience and value for them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 203. selection of visibility gaining innovationd devices over subtler ones | 0..1..2..3..4..5..6..7..8..9..10 |
| | environment and zeitgeist | What environment and zeitgeist of creative people generate variations? | 204. end of empire | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 205. borderline metropoli | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 206. self-built "crafted world" of tools and images | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What environment and zeitgeist of creaqtive people generate combinations? | 207. competition among disciplines | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 208. venues wherein different disciplines are co-exhibited/co-evaluated | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What environment and zeitgeist of creative people select combinations? | 209. intrinsic motivation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 210. lack of direct supervision | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 211. local informal meeting places for multiple arts or disciplines where new ideas can be improvised and tried out safely | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What environment and zeitgeist of crative people reproduce selected items? | 212. discipline districts wherein word spreads fast and inexpensively | 0..1..2..3..4..5..6..7..8..9..10 |
| | lifespan | What lifespan characteristics of creative people generate variation? | 213. immigration | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 214. cross-discipline work | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 215. lasting experience of two or more cultures | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 216. being new to a field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 217. being self taught | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 218. being very young | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 219. having changed fields | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What lifespan characteristics of creative people generate combinations? | 220. exposure to creative adults as child | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 221. great personal productivity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What lifespan characteristics of creative people select combinations? | 222. being new to the field/domain | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 223. applying techniques from other fields within the field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What lifespan characteristics of creative people reproduce selected items? | 224. self promotion activity during or after production | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 225. having formed new organizations with peers before withdrawing into mid-career competitive isolation | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Field** | **cognitive process** | **What cognitive process of creative fields generates variations?** | 226.  tire of own methods or subjects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 227.  turn on or foster own cannon | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 228.  training by abstract principles versus training by cases or master-disciple relationship | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What cognitive process of creative fields generates combinations?** | 229.  compose cannon representing history of best of the domain | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 230.  factionalization of the field (division into competing schools) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What cognitive process of creative fields selects combinations?** | 231.  select boundary challenges to applaud or discard | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 232.  build failure indices as funders of efforts till accumulated failed tries specify solution enough that someone succeeded | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What cognitive process of creative fields reproduces selected items?** | 233.  solicit emulators of best performers/performances directly or indirectly by acclaim | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 234.  training by master-disciple relationship | 0..1..2..3..4..5..6..7..8..9..10 |
| | **environment and zeitgeist** | **What environment and zeitgeists of creative fields generate variations?** | 235.  offer better rewards than other fields so as to attract the best people | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 236.  have to compete with other fields for growing rewards/opportunities /people (photos destroying realistic painting in early 1900s) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 237.  openness of the field fosters variant solicitation and acceptance (hierarchical fields tend to resist variants till they are approved) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What environment and zeitgeists of creative fields generate combinations?** | 238.  cross-discipline projects, funding, and prize competitions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 239.  major society multi-discipline project opportunities | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What environment and zeitgeists of creative fields select combinations?** | 240.  competition to obtain leading critic positions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 241.  generation change among critics and display/publicity means | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 242.  change of fundamental infrastructure | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 243.  autonomy of field from other fields for evaluating its own results (= degree of codification,  codification = autonomy) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What environment and zeitgeists of creative fields reproduce selected items?** | 244.  cross-inspiration achieved of one discipline by accomplishments of others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 245.  documenting era and age in entirety | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 246.  social supersaturation (example: due to end of empire, sujddenly freeing simultaneous dammed up forces for change) | 0..1..2..3..4..5..6..7..8..9..10 |
| | **lifespan** | **What lifespan characteristics of creative fields generate variations?** | 247.  not over-educate own field members yet make cannon methods training widely available | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What lifespan characteristics of creative fields generate combinations?** | 248.  events joining misfits of field with leading figures | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 249.  reorganizations that combine distant subdisciplines | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 250.  value centrality attracts people from many other domains | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What lifespan characteristics of creative fields select combinations?** | 251.  circulation from achievers to critic positions and vice versa | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What lifespan characteristics of creative fields reproduce selected items?** | 252.  degree of cumulativeness of technique or results required/encouraged | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 253.  institutions for teaching the canon in the context of improvements to be made in it | 0..1..2..3..4..5..6..7..8..9..10 |
| **Domain** | **cognitive process** | **What cognitive processes of creaive domains generate variations?** | 254.  lend itself to plural representations | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What cognitive processes of creative domains generate combinations?** | 255.  express itself in symbol system supporting many inter-relations among symbols | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What cognitive processes of creative domains select combinations?** | 256.  standard expression vocabulary and standards of work making excellence visible | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 257.  build up of failure indices in history of efforts in a field till solution breakthroughs | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What cognitive processes of creative domains reproduce selected items?** | 258.  an immortality vehicle of awards, events, publishings that bring the best to attention of entire field | 0..1..2..3..4..5..6..7..8..9..10 |
| | **environment and zeitgeist** | **What environments and zeitgeists of creative domains generate variations?** | 259.  takes up and extends themes of the era/zeit | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What environments and zeitgeists of creative domains generate combinations?** | 260.  collaborates with other disciplines in holistic projects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 261.  events, seminars, exhibitions of arts criss-crossing sciences and vice versa, technologies crossing arts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What environments and zeitgeists of creative domains select combinations?** | 262.  finds analogous creations to express era's issues, concerns, contradictions = domain becomes metaphor for era | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 263.  domains in eras seeing themselves as unique in history | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 264.  domains in eras seeing themselves as modern repeats of classical previous eras of excellence | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **What environments and zeitgeists of creative domains reproduce selected items?** | 265.  academic departments teaching the canon of the field to novices | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 266.  domains in environments of intense competition among leading cities for attracting world best art, science, etc. | 0..1..2..3..4..5..6..7..8..9..10 |

| Domain | lifespan | What lifespan characteristics of creative domains generate variations? | 267. normal science versus paradigm change science | 0..1..2..3..4..5..6..7..8..9..10 |
|---|---|---|---|---|
| | | | 268. backwater status so long that all intellectual trends can interactively be applied suddenly at once, revolutionizing the field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 269. backwater status attracting a few pioneering individuals attracted by lack of competition and many obvious improvement opportunities | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What lifespan characteristics of creative domains generate combinations? | 270. inevitable inventions as myriad efforts converge on same set of problem approaches and prerequisite knowledge accumulates | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 271. domains recently revolutionized seek inter-domain interactions to export own worth and import fodder for further revolution | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What lifespan characteristics of creative domains select combinations? | 272. creativity critics that compare and contrast output quality of various fields | 0..1..2..3..4..5..6..7..8..9..10 |
| | | What lifespan characteristics of creative domains reproduce selected items? | 273. domains that are useless in some sense last longer than domains that are useful--for example abstract science outlasts particular engineering principles | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 274. on the contrary, domains that have transformed conditions of life for all of civilization repeatedly, like medicine or physics, also reproduce their innovations lastingly and well | 0..1..2..3..4..5..6..7..8..9..10 |

## 25 Steps from the Insight Model of Creativity

| Exhausting First Impressions | TRY EXISTING FRAME **Represent the Problem** **Engagement, Inductive Model Building, this problem consists of X** | 275. **1. Select Problem** both problem and features of the problem to attend to | 0..1..2..3..4..5..6..7..8..9..10 |
|---|---|---|---|
| | | 276. **2. Abstract Features** from problem descriptions of others and new descriptions you generate | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 277. **3. Case Index--Match Cases** find past problems similar to current one | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 278. **4. Represent Problem** in multiple ways, as many ways as possible, both careful and playful | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 279. **5. Find Representation Invariants** to problem across various representations, these will be rather abstract | 0..1..2..3..4..5..6..7..8..9..10 |
| | STOP EXISTING FRAME **Unrepresent the Problem** **Detachment, Model Breaking and Expanding, things that are X have not been tried yet** | 280. **6. Select Assumptions** (Implicit in the problem, you, your background) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 281. **7. Abstract Constraints** (witting and unwitting) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 282. **8. Context Index--Switch Contexts** and activities | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 283. **9. Apply Outside of Field** knowledge, images, techniques | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 284. **10. Find Representation Variants** what varies as you change ways to represent the problem | 0..1..2..3..4..5..6..7..8..9..10 |
| Despair Doorway to Inventing New Frames | SPECIFY NEW FRAME **Represent Points of Failure** **Engagement, Inductive Model Building (of Failure Points), things that are X don't work** | 285. **11. Select Solution Attempts** that failed thus far | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 286. **12. Abstract Failed Hypotheses** abstract hypotheses from failed solution attempts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 287. **13. Failure Index--Specify Causes of Failure** state why and how each hypothesis failed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 288. **14. Reverse Failure Causes** reverse causes of failure to find what each tells you about nature of eventual solution | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 289. **15. Find Eventual Solution Attribute Invariants** find invariants in all solutions tries that failed and all reverse specifications of eventual solution | 0..1..2..3..4..5..6..7..8..9..10 |
| | GENERATE CANDIDATE SOLUTION COMPONENTS **Generate Alternative Partial Solutions and Solution Components** **Detachment, Model Breaking and Expanding, what about trying X** | 290. **16. Select Parallel Project Involvements** multi-task in wildly different projects to refresh frames, contexts, morale, images | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 291. **17. Abstract Analogies in Other Domains** to find what is common about problems across domains and potential solutions across them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 292. **18. Discourse Index--Seek Out New Discourse Partners** and discuss your stuck-nesses with them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 293. **19. Apply Out-of-Field Solutions Components** inside your own field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 294. **20. Find Invariants in Aspects of Partial Solutions** that work partially | 0..1..2..3..4..5..6..7..8..9..10 |
| Insight as Victory | REDUCE AND TEST **Recognize and Combine Solution Components** **Engagement, Inductive Model Building (of best solution combination), things that are X help in way Y** | 295. **21. Select Combinations** of partial solutions and solution elements gained from analogies with other domains | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 296. **22. Abstract Patterns** from combinations and analogies to try | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 297. **23. Partial Solution Index**--separate helpful from unhelpful patterns among solution elements | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 298. **24. Specify What Part of Each Pattern Works** --and does not work | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 299. **25. Find Invariants Among Working Patterns** --as your overall solution | 0..1..2..3..4..5..6..7..8..9..10 |

## 11 Dimensions of Creativity from The Population Automaton Model of Creativity

| POPULATIONS ORGANIZED AS AUTOMATONS | POPULATION AUTOMATON | Automation Parameters | 300. number and types of basic units in the population | 0..1..2..3..4..5..6..7..8..9..10 |
|---|---|---|---|---|
| | | | 301. number and types of states/behaviors per basic unit type | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 302. number and types of abstract neighborhoods shared by basic units types | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 303. number and types of interactions among units sharing a neighborhood type | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 304. number and types of interactions between neighborhoods of the same and different type | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Population Parameters | 305. connectedness parameters--how connected (communicativeness of link and number of links) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 306. diversity parameters--how many types | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 307. patchings parameter--how many centers of initiative (of various types) in the population | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Complexity Amount Parameters (Kauffman's "adjacent beyond") | 308. niches created per new niche created | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 309. subsystems created by combining previous subsystems | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 310. new processes created by combining previous processes | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Reflexivity Parameters | 311. distributedness achieved of emergent pattern recognizer function | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 312. distributedness achieved of purpose setter function | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 313. distributedness achieved of fittest pattern recognizer function | 0..1..2..3..4..5..6..7..8..9..10 |

| | | | | |
|---|---|---|---|---|
| **POPULATIONS ORGANIZED AS AUTOMATONS** | **GENETIC AUTOMATON** | **Natural Selection Parameters** | 314.  variant generation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 315.  random mutation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 316.  heuristic mutation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 317.  variant combination | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 318.  proximate combination | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 319.  distant combination | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 320.  diffusive combination | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 321.  variant selection | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 322.  levels of selection--selection of trait codes, selection of trait controlling codes, selection of codes that control trait controls | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 323.  variant reproduction | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **Natural Selection Selections** | 324.  natural selection processes selected for (natural selection process type selection)--embedded fractal natural selection processes within natural selection processes in creation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 325.  faster/slower mutation selected for (mutation rate selection) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 326.  invented new forms of sexuality (combination) selected for (sexuality type selection) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 327.  environment preferences selected for (environment type selection). | 0..1..2..3..4..5..6..7..8..9..10 |
| | **GENERATIVE AUTOMATON** | **The Cognition Automaton, of Populations of Thoughts in Minds** | 328.  precision of count of main points | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 329.  precision of naming of main points | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 330.  precision of ordering of main points | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 331.  clarity of ordering of main points | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 332.  recall/retrievability of ordering of main points | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 333.  fractality of branch factor in ordering of main points | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **The Insight Automaton, of Populations of Failed Solution Attempts in Minds** | 334.  number and unobviousness of features abstracted | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 335.  number and unobviousness of frames selected | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 336.  number and unobviousness of problem representations selected | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 337.  number and unobviousness of solution attempts tried that failed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 338.  number and unobviousness of cross-domain analogies seen and attempted | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 339.  number and unobviousness of reasons identified of why failed attempts failed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 340.  thoroughness of indexing of features, frames, representations, failed attempts, domain analogies, reasons for failure | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 341.  recall/retrievability of indexing of features, frames, representations, failed attempts, domain analogies, and reasons for failure | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **The Social Automaton, of Populations of Voices in the Field or Works in the Domain** | 342.  the commitment to marketing of the creator | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 343.  the inherent visibility of the creative work itself, independently of its worth or eventual destiny | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 344.  the hunger of the field for further developments in present incipient trends | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 345.  the creative explosive re-interpretation in audience minds when particular creative works in a domain are combined | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 346.  the interplay of person, personae, and work in a field/domain | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **The Domain Automaton, of Populations of Domains Interacting in a Society** | 347.  the rigidity and clarity of the status hierarchy among domains | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 348.  the plurality of sources of judgement and funding within and among domains | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 349.  the number of domains sharing the same technical symbol systems | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 350.  the hunger of particular domains for new methods | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 351.  the hunger of particular domains for new objects of study | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 352.  the analogy types among domains: | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 353.  number of circumstantial analogies and elaborateness of feature matches--things facing same environment develop similar responses | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 354.  number of mimicry analogies and elaborateness of feature matches--things that copy other things end up similar | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 355.  number of recruitment analogies and elaborateness of feature matches--finding another use of a thing once it is found of use in one place and way | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 356.  number of building block analogies and elaborateness of feature matches--finding all the possible uses of a thing once it is found of use in one place and way. | 0..1..2..3..4..5..6..7..8..9..10 |
| **PARADOX GENERATORS** | **PARADOX GENERATORS** | **Negation** | 357.  simultaneous opposites generated by negation in the mind (so-called Jansian thinking) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 358.  degree of oppositeness achieved | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 359.  equality of investment in both ends of various polarities | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 360.  capability of performing both ends of various polarities | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **Hubris** | 361.  broken illusions, as attempts fail, generated by hubris | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 362.  degree of disappointment at failed attempts tolerated without stopping the generation of new attempts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 363.  degree of emotional detachment (skepticalness) maintained about own solution attempts so that failure does not provoke stopping the process of solving | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 364.  degree to which the constraints and frustrations of the world are embedded in the creator's model of the world as a trying place without creating image of the world as impossible or undesirable place | 0..1..2..3..4..5..6..7..8..9..10 |

| | | | | |
|---|---|---|---|---|
| **PARADOX GENERATORS** | **PARADOX GENERATORS** | **Feedbacks** | 365. chicken and egg dilemmas, generated by positive feedback loops | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 366. speed of feedback effects and size of them, provoked by new features of some creative work in a domain | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 367. disposition of creator to invest in chicken and egg dilemma type situations | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **Parallel Projects** | 368. fanatical focus, generated by investment in plural simultaneous projects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 369. number of parallel projects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 370. number of different domains represented by the parallel projects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 371. intellectual and social distance of the different domains represented by the parallel projects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 372. number of blocked times in one domain where creator switches to work on problems in other domains | 0..1..2..3..4..5..6..7..8..9..10 |
| **AUTOMATON APPLICATIONS** | **APPLICATION AUTOMATONS** | **THOUGHT LEVEL:** creativity dynamics applied to thoughts in the mind | 373. what sort of thoughts are targeted | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 374. how many thoughts of that type are in the population | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **EMOTIONAL REACTION LEVEL:** creativity dynamics applied to emotional reactions to persons and situations | 375. what sort of reactions are targeted | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 376. how many potential reactions to a situation are in the population | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **PERFORMANCE LEVEL:** creativity dynamics applied to moves and improvisations within performances | 377. what sort of moves or improvs are targeted | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 378. how many such possible moves or improvs are in the population | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **ORGANIZATION LEVEL:** creativity dynamics applied to parts of and aspects of organizations of people | 379. what aspects of organizations are targeted | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 380. how many such possible aspects are in the population | 0..1..2..3..4..5..6..7..8..9..10 |
| | **APPLICATION AREAS** | **Internal Psychic Social Basics** | 381. STRUCTURAL COGNITION: regularizing the structure of mental contents to aid retrieval, generation, comparison, and indexing; creativity dynamics applied to thoughts in the mind | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 382. EMOTIONAL INTELLIGENCE: managing your emotional reactions to situations; creativity dynamics applied to emotional reactions to situations | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 383. GROUP DYNAMICS: managing the emotional life of groups; creativity dynamics applied to aspects of personal identities that come from group memberships of individuals | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **External Social Basics** | 384. INNOVATION: inserting changes into the world and its organizations and systems; creativity dynamics applied to gaps in corporate performance as skunk works | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 385. LEADERSHIP: getting a particular set of people to accomplish a particular accomplishment; creativity dynamics applied to followers to make them into leaders | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 386. HIGH PERFORMANCE: getting a particular set of people to perform at a certain level or to defeat a particular competitor; creativity dynamics applied to moves in a team performance | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **Continuous Improvement of Internal/External Basics** | 387. ORGANIZATIONAL LEARNING: getting organizations capable of responding differently to similar stimuli/situations; creativity dynamics established among parts of organizations | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 388. KNOWLEDGE MANAGEMENT: getting organizations to measure, increase, and deploy what they know, to know what they know; creativity dynamics established among types of knowledge in organizations | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 389. NETWORK ECONOMICS: getting explosive growth from positive feedbacks between product/service niches and the new niches they generate; creativity dynamics established among product/service niches in an economic ecosystem. | 0..1..2..3..4..5..6..7..8..9..10 |
| **NON-LINEAR AVALANCHE "INSIGHTS"** | **EXPLOSIVE RE-INTERPRETATION** | **NON-LINEAR SYSTEM DYNAMICS PARAMETERS:** | 390. degree of system supercriticality | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 391. size of avalanche events | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 392. fractality of system changes | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 393. degree of self organized criticality in the system before and after the avalanche | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **AVALANCHE EFFECT PARAMETERS, FOR CREATIVE WORKS AS AVALANCHES:** | 394. the number of previous works re-interpreted | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 395. the unobviousness of the re-interpretations generated | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 396. the amount of elapsed time of the re-interpretation of the works of the domain | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **AVALANCHE EFFECT PARAMETERS, FOR INSIGHTS AS AVALANCHES:** | 397. the number of previous solution attempts re-interpreted by a particular insight | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 398. the unobviousness of the re-interpretation generated | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 399. the amount of elapsed time of the re-interpretation of those solution attempts in a particular insight event | 0..1..2..3..4..5..6..7..8..9..10 |
| | **INSIGHTS AS EMERGENT PHENOMENA, NON-LINEAR AVALANCHES** | **OBVIOUSNESS PARAMETERS:** | 400. the unobviousness of when the insight avalanche occurs | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 401. the unobviousness of the contents of the particular insight | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 402. the unobviousness of the re-interpretation of failed solution attempts produced by a particular insight | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **INTERACTION PARAMETERS:** | 403. what parts of the population interacted to produce the insight | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 404. what degree or type of interaction led to the insight | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 405. what re-organization of the domain results from the insight | 0..1..2..3..4..5..6..7..8..9..10 |

R. T. Greene,    A Creativity Checklist

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| **SOCIO-PSYCHIC LEVELS MATRIX** | **THE SOCIO-LOGICAL LEVELS** | **PERSON PARAMETERS:** | 406.  life history event types that foster creative dispositional elements like personal productivity, non-conformism, and so on | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 407.  social support configuration that makes a particular creator isolated enough to break boundaries yet connected enough that those breakings contribute to others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **WORK PARAMETERS:** | 408.  attentional properties of the work, independent of its initial or final worth and destiny | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 409.  semiotic properties of the work, linking it to trends in the field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 410.  opportunistic properties of the work, creating appeal in particular configurations of people, funders, and critics at particular times facing particular exigencies | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **FIELD PARAMETERS:** | 411.  salience of a field among others in competing for best people, works, methods | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 412.  connectedness, diversity, and patchings parameter settings of a field relative to others for fostering many variants and many frames for positively evaluating variants | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **DOMAIN PARAMETERS:** | 413.  presence of standard symbolic language across the domain, making judgements of worth of contribution more easily evaluated | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 414.  recent history of previous struggles in the domain and the disposition towards radicality or conservative evolution it fosters | 0..1..2..3..4..5..6..7..8..9..10 |
| | **THE POPULATION LEVELS** | | 415.  thoughts,   emotions,   social relations,   organized domains | 0..1..2..3..4..5..6..7..8..9..10 |
| **PARADOX GENERATORS** | **THE TWELVE PARADOXES** | **FLEXIBLE BRICOLAGE, ASSOCIATIONS PARAMETERS:** | 416.  how rich is the creator's environment in variety of things opportunistically usable in different contexts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 417.  how flexible is the creator's imagination at putting things to use in frames other than their standard use ones | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 418.  how unobvious and intellectually/emotionally distant are the associations the creator makes to any stimulus | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **TOLERANCE FOR FAILURE PARAMETERS:** | 419.  how disposed to preserver in the face of failure and difficulty is the creator | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 420.  how many failures of what type does it take to reduce the commitment of the creator to a particular line of attack | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 421.  how does the creator balance need for perserverence with need for flexibility of approach | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **MARGINALITY, INGENUE, IN BUT NOT OF, SUPPORTED LONER PARAMETERS:** | 422.  how much commitment to and mastery of existing technique and knowledge of a domain does it take to reduce ability to innovate a certain amount | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 423.  what single link of what level of quality does it take to remove just enough of the loner-ness of the creator to make him/her impact a field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **METHOD, PROCESS, APPROACH, SIMILIARITY METAPHOR PARAMETERS:** | 424.  how many different domains furnish possible analogies for a situation in a particular domain | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 425.  how widely read is the creator | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 426.  how diverse are the person's with whom the creator speaks on a regular basis | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 427.  how many different domains can the creator easily converse with someone in, when need arises | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 428.  how specific is the mapping of parts of any one analogy from one domain to parts of another domain | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **COMPETING AUTHORITY PARAMETERS:** | 429.  how many different authorities are funded and respected in the field at any one time | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 430.  how different are the approaches and values of the different authorities tolerated in the field at any one time | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 431.  how easy is access to these authorities by newcomers, novices, and mediocre contributors of the field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **PLAYFULNESS, REGRESSION IN SERVICE OF THE EGO PARAMETERS:** | 432.  how much is the childhood mind's over-connectedness preserved in the adult mind | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 433.  how essential is such over-connectedness preservation to creative performance | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 434.  how well does the mind professionally and disinterestedly use its more emotive, associatively rich, childish capabilities | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **DISINTERESTED SELF PROMOTION PARAMETERS:** | 435.  how assiduously did the creator learn and link him/herself to the social substructures of his/her field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 436.  what minimum amount and quality of links suffices to create possibility of impacting a field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 437.  what properties of the person and his/her work make such linkages work well in creating impact and work poorly | 0..1..2..3..4..5..6..7..8..9..10 |
| | | **PERSONAL PRODUCTIVITY PARAMETERS:** | 438.  how much more productive than normal persons not contributing creatively in a domain is the creative person | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 439.  can creative contribution take place by someone not more productive than usual persons in the domain | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 440.  is what makes the creator more productive the same as what makes him/her more creative or different | 0..1..2..3..4..5..6..7..8..9..10 |

| PARADOX GENERATORS | THE TWELVE PARADOXES | TAKING POINTS AS TRENDS PARAMETERS: | 441. what points that others take as points does the creator take as places within trends | 0..1..2..3..4..5..6..7..8..9..10 |
| --- | --- | --- | --- | --- |
| | | | 442. how much interpolation does the creator use | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 443. how much extrapolation does the creator use | 0..1..2..3..4..5..6..7..8..9..10 |
| | | RE-CONNECTING TO SPONSORS/ AUDIENCES PARAMETERS: | 444. the degree of frustration of audiences in the field and in society supporting the field with outputs of the field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 445. the degree of satisfaction of audiences/sponsors in the field with the present outputs of the field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | CANON AS BUILDING BLOCK PARAMETERS: | 446. the degree to which particular creations re-configure parts of the canon/tradition | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 447. the number and salience of items in the canon that are reconfigured by any one creation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | DOMAIN/TRADITION INVENTION PARAMETERS: | 448. the degree of idea-richness and sponsor-richness attained (and required to cause a single creation or insight to become a new domain) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | | 449. the supercriticality of a domain that causes it to be a likely sponsor of spin-off new domains | 0..1..2..3..4..5..6..7..8..9..10 |

## 7 Creative Intersection Types from Crossing/Blending Cultures

| Frameworks Loosened & Plurified | Loosen hold of "natural" unthinking ways of doing things | 450. 1) expanded repertoires of ways to do things--suggest alternatives and variants not imaginable in one culture | 0..1..2..3..4..5..6..7..8..9..10 |
| --- | --- | --- | --- |
| | | 451. 2) creative surprises from incompatible frameworks--train and rehearse people in the creativity inherent in people who invent civilizations and ways of living and unique selves while getting them used to and expecting surprise | 0..1..2..3..4..5..6..7..8..9..10 |
| | Vacuum that draws out new responses and ideas | 452. 3) external quietude--like vacuum power, shuts down the constant bombardment of one's own culture (mostly from seeing and hearing messages in its language, but also repetition of the same attitudes and tastes, daily) in the resultant quiet thus produced, one's own internal visions and imaginings grow without prejudice, external evaluation, or opinions of others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 453. 4) available emotion--renews the heart and mind with feeling richness that, on a daily basis, was never experienced before; the experience of living itself simply becomes fuller | 0..1..2..3..4..5..6..7..8..9..10 |
| | Alternative ways repertoire | 454. 5) relativization of values--seeing two cultures totally incompatible with each other yet each wholly believing it is right and natural, makes one doubt all values, beliefs, and relicts of how one was born and raised, lubricating the change of values, making it easier to change values | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 455. 6) practice mapping differences--done dozens of times per day or hour, practices the mind in making slight, subtle distinctions not made by people comfortably living within a culture they unconsciously imbibed while growing up | 0..1..2..3..4..5..6..7..8..9..10 |
| Solutions as New Cultures Penetrated | | 456. 7) metaphor for discovery--quotidian discovery of the other culture as a metaphor for the eventual solution as a similar discovery of a coherent other world of meaning. | 0..1..2..3..4..5..6..7..8..9..10 |

## 16 Subcreation Types from the Subcreations Model of Creativity

| Subcreations | Spaces | 457. space for making, producing, composing, giving final form to ideas | 0..1..2..3..4..5..6..7..8..9..10 |
| --- | --- | --- | --- |
| | | 458. space for combining, blending, mixing, fusing, using variations as words in sentences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 459. space without distraction, hassle free space, reliable periods of non-interruption, elevated mood | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 460. time space, that is, schedule and rhythm of work, uninterrupted, undisturbed, unevaluated | 0..1..2..3..4..5..6..7..8..9..10 |
| | Social Extensions | 461. peers, competitors, allies | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 462. students, schools of followers, recruits | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 463. cognitive friend network (of people who perform specific cognitive functions for you: news, edits, etc.) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 464. avenues of built up past impression, contribution, authority, customer contact, customer trust | 0..1..2..3..4..5..6..7..8..9..10 |
| | Mind Extensions | 465. mental tools, work environments, life environments, presence to audiences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 466. work environments | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 467. living environments | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 468. presence to audiences | 0..1..2..3..4..5..6..7..8..9..10 |
| | Artifacts of Action | 469. cannon operations artifacts--tools invented for mastering the cannon of past works in a field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 470. question finding artifacts--tools invented for discerning the questions worth answering | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 471. alternative generating artifacts--tools invented for diverging from the usual/norm/center/popular | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 472. breakthru and impact artifacts--tools invented for conquering particular resistances | 0..1..2..3..4..5..6..7..8..9..10 |

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| The 64 Creativity-as-Accelerated-Learning Dynamics | | | | |
|---|---|---|---|---|
| **Experience Formation** | **simulate experience** | devil's advocate | 473. skepticism embodied in personal challenging of one's own interests, proposals, hypotheses | 0..1..2..3..4..5..6..7..8..9..10 |
| | | role play | 474. put on the role of someone else to see what things look like from their point of view | 0..1..2..3..4..5..6..7..8..9..10 |
| | | possible futures search conference | 475. consult all stakeholders for asynchronous conversational workshop on what futures are possible, likely, desirable | 0..1..2..3..4..5..6..7..8..9..10 |
| | | causal maps | 476. articulate what causes what, what effects what, build maps of what such models others have in their minds | 0..1..2..3..4..5..6..7..8..9..10 |
| | **social computation** | standard cognitive tool sets | 477. every few months or years master a new set of inter-related tools for improved mental work | 0..1..2..3..4..5..6..7..8..9..10 |
| | | vertical horizontal cascade processes | 478. cross different scales of idea, rank orderings of fields or ideas by importance; cross different ideas or fields or issues at the same level of scale of importance | 0..1..2..3..4..5..6..7..8..9..10 |
| | | computation deployments | 479. deploy computation processes vertically or horizontally within your mind | 0..1..2..3..4..5..6..7..8..9..10 |
| | | JIT self configuring structures | 480. revisit groupings of ideas in your mind gradually observing how they interact within groupings | 0..1..2..3..4..5..6..7..8..9..10 |
| | **narration events** | incidental encounter spaces | 481. create times, activities, or events within your mind wherein ideas not normally together can join and meet each other | 0..1..2..3..4..5..6..7..8..9..10 |
| | | cellular workspaces | 482. connect yourself with appropriate others at exactly the times and places where their advice is needed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | corporate cabaret events | 483. periodically celebrate by yourself all you have accomplished in life, rehearsing again and again what was faced, what was suffered/endured, what was overcome, what was learned | 0..1..2..3..4..5..6..7..8..9..10 |
| | | gossip compilation | 484. periodically (weekly perhaps) collect all snippets of information, notes, jottings, overheard ideas, and put them into a more permanent, ordered, and usable form | 0..1..2..3..4..5..6..7..8..9..10 |
| | **organization reflection** | capture crises as learning | 485. when unexpected failures occur to you, whether through your fault or not, examine them in great detail, thoroughly finding all they can teach you about actual dynamics at play | 0..1..2..3..4..5..6..7..8..9..10 |
| | | deploy functions continually | 486. whatever new functions or procedures one part of your mind invents or learns deploy to other parts of your mind | 0..1..2..3..4..5..6..7..8..9..10 |
| | | SWAT organization forms | 487. replace standard ways of organizing your mind, files, and work with a repertoire of many ways, one or several of which you combine for each case as needed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Organization cognition management | 488. study how you study, learn how you learn, think how you think--meta-cognition in other words--the manage how you study, learn, and think | 0..1..2..3..4..5..6..7..8..9..10 |
| **Border Violations** | **counter rules** | coalition building | 489. recruit disparate areas of knowledge or experience in your mind to respond instead of one more appropriate one | 0..1..2..3..4..5..6..7..8..9..10 |
| | | interest groupings | 490. find your own interests, all of them, and regularly develop them all, often combining them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | business hobbies | 491. develop your hobbies to extremes till they turn profitable | 0..1..2..3..4..5..6..7..8..9..10 |
| | | campaign management | 492. use past experiences and areas of knowledge in your mind as a library from which you draw mixtures of capabilities into mental campaigns of invention | 0..1..2..3..4..5..6..7..8..9..10 |
| | **counter norms** | fit espoused to enacted | 493. find gaps between what you say you are and what you actually do, and between what others say you are and what you actually do and remove them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fit technical to social | 494. find gaps in yourself and your own work ways between technical systems and social system needs/capabilities/uses and remove them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | propagate standards | 495. when something works well in one area of your mind, simplify it to its core, generalize its form and function, then apply it to similar situations in other parts of your mind | 0..1..2..3..4..5..6..7..8..9..10 |
| | | invent solution cultures | 496. when things are not working what culture inside you is sustaining your inability to win, reverse all attributes of that culture into a solution culture and apply that | 0..1..2..3..4..5..6..7..8..9..10 |
| | **counter roles** | crossing boundaries | 497. find all sorts of boundaries inside your mind and violate them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | under-studying leaders elsewhere | 498. find you greatest weaknesses and get involved in things that challenge you to fix them instead of building on strengths | 0..1..2..3..4..5..6..7..8..9..10 |
| | | legitimate peripheral participation | 499. study the limits, boundaries, shyneses, fears, and avoidances inside your mind, thoughts you dare not think, methods you dare not master and master them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | discipline intensification exercises | 500. punctuate your ordinary work rhythm with periods wherein you accomplish vastly more faster better of some function than you usually would, take these new stretched capabilities back to improve your ordinary way of work | 0..1..2..3..4..5..6..7..8..9..10 |
| | **counter neuroses** | counter personal neuroses | 501. find all your strengths, interests, and talents and what the cost of having each is--what you do not develop because you focussed on developing it--then undo those costs | 0..1..2..3..4..5..6..7..8..9..10 |
| | | counter organization neuroses | 502. find the organizations you are in and what their talents, interests, and strengths are and the costs of each, then undo them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | counter national neuroses | 503. find what the strengths, interests, and talents of your nation are and their costs, then undo them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | counter life neuroses | 504. find the strengths, interests, and talents of life itself and their costs, then undo them | 0..1..2..3..4..5..6..7..8..9..10 |

| | | | | |
|---|---|---|---|---|
| **Content Evolution** | **balance learning** | vicarious learning | 505. learn by observing what is happening to others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | exploitation learning | 506. learn how to apply what you already know | 0..1..2..3..4..5..6..7..8..9..10 |
| | | exploration learning | 507. learn by exploring unknown areas | 0..1..2..3..4..5..6..7..8..9..10 |
| | | graft learning | 508. learn by partnering or marrying or hiring a brilliant other | 0..1..2..3..4..5..6..7..8..9..10 |
| | **surface feedbacks** | tragedy of the commons | 509. examine problem situations to see if tragedy of the commons dynamics are underlying them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | delayed feedbacks | 510. examine problem situations to see if unrecognized delayed feedbacks are underlying them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | escalating hidden feedbacks | 511. examine problem situations to see if underlying them are actions you are taking are escalating feedback strength | 0..1..2..3..4..5..6..7..8..9..10 |
| | | counter-productivity effects | 512. examine problem situation to see if side-effects countering your intended main effect are underlying them | 0..1..2..3..4..5..6..7..8..9..10 |
| | **manage by events** | work events | 513. regularly punctuate your regular work with "workday events" wherein you radically clean, order, move, rearrange, computerize, install your life or workspaces | 0..1..2..3..4..5..6..7..8..9..10 |
| | | workouts and solving events | 514. concentrate all external and inside your mind resources needed for solving something on one time and place and push through to complete solution in a short time event then and there | 0..1..2..3..4..5..6..7..8..9..10 |
| | | research assemblies | 515. concentrate all external and inside your mind resources needed for investigating or inventing something on one time and place and push through to complete discovery in a short time event then and there | 0..1..2..3..4..5..6..7..8..9..10 |
| | | cognitive algorithm cascade event sequences | 516. take an idea, new framework, or model and turn it into a procedure that can apply to many areas then deploy it successively to different types of mental process or knowledge contents in your mind | 0..1..2..3..4..5..6..7..8..9..10 |
| | **unlearn** | update assumed facts | 517. change what you believe and act on as new data comes in | 0..1..2..3..4..5..6..7..8..9..10 |
| | | revise automated processes | 518. undo past routines and habits and replace them as new data comes in | 0..1..2..3..4..5..6..7..8..9..10 |
| | | surface unconscious values | 519. find values inside you that you were unconscious of and revise them based on all you now know | 0..1..2..3..4..5..6..7..8..9..10 |
| | | undo influence of past victories | 520. find ways that each past victory that you have had have narrowed you and made you lazy and undo them | 0..1..2..3..4..5..6..7..8..9..10 |
| **Organization Research** | **organization experiments** | policy by experiment | 521. examine your strategies and plans and change them into experiments optimized for teaching you what to do next | 0..1..2..3..4..5..6..7..8..9..10 |
| | | process by experiment | 522. turn each mental process or social process or work process you have into an experiment optimized to show you new things about yourself and the world | 0..1..2..3..4..5..6..7..8..9..10 |
| | | structure by experiment | 523. turn each knowledge structure in your mind into an experiment optimized to show you new things about yourself and the world | 0..1..2..3..4..5..6..7..8..9..10 |
| | | purpose by experiment | 524. turn each purpose you have into an experiment to reveal new things about your self and your world | 0..1..2..3..4..5..6..7..8..9..10 |
| | **expanded repertoires** | plurify knowledge sources | 525. survey thoroughly all your sources of knowledge and develop all varieties of sources not found in yours now | 0..1..2..3..4..5..6..7..8..9..10 |
| | | plurify process capabilities | 526. survey thoroughly all the mental, work, and social processes you primarily depend on and like using, and where they came from; then develop varieties of sources for processes beyond them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | plurify values and viewpoints | 527. survey thoroughly all the values and viewpoints that characterize you at your worst and best, where did they all come from? then identify sources very different than those for developing new values and viewpoints. | 0..1..2..3..4..5..6..7..8..9..10 |
| | | institutionalize plurification | 528. build some regular habit of checking and plurifying your sources of knowledge, processes of thought, and values and viewpoints | 0..1..2..3..4..5..6..7..8..9..10 |
| | **elaborate indexes** | from name to role/task indexing | 529. list all the people you know and consult with, whether frequently or rarely; organize them not by name but by topic to consult them about or role they perform in some of your mental processes | 0..1..2..3..4..5..6..7..8..9..10 |
| | | from role/task to process step/event indexing | 530. identify all of your processes that people participate in and events others participate in; what step in those processes or events does each person you know play; build an index allowing you to access them by those steps instead of by their names | 0..1..2..3..4..5..6..7..8..9..10 |
| | | from process step to failed attempts indexing | 531. identify all your failed attempts in some long important project and build an index allowing access to ideas, methods, etc. based on knowing what failed attempt they were involved with | 0..1..2..3..4..5..6..7..8..9..10 |
| | | from failed attempts to partial solutions indexing | 532. identify all your partial solutions in some long important project and build an index allowing access to ideas, methods, etc. based on knowing what partial solution they were involved with | 0..1..2..3..4..5..6..7..8..9..10 |
| | **manage organization mind** | create perception bid/offer markets | 533. inside your mind or among your immediate work colleagues create a market wherein different projects/capabilities of your mind or colleagues bid to assist a goal, stating their price to cooperate | 0..1..2..3..4..5..6..7..8..9..10 |
| | | create solving collaboration markets | 534. organize inside your mind or among your immediate work colleagues a market wherein different mental areas or colleagues offer "bid" possible solutions to some problem | 0..1..2..3..4..5..6..7..8..9..10 |
| | | create problem finding collaboration markets | 535. organize inside your mind or among your immediate work colleagues a market wherein different mental areas or colleagues offer "bid" possible problems for you and them to tackle | 0..1..2..3..4..5..6..7..8..9..10 |
| | | create method institutionalization markets | 536. organize inside your mind or among your immediate work colleagues a market wherein different mental areas or colleagues offer "bid" ways to institutionalize new methods or mental processes | 0..1..2..3..4..5..6..7..8..9..10 |

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| 64 Creation Dynamics from the Traits Model of Creativity | | | | |
|---|---|---|---|---|
| Variation | Problem Finding | impossible problems attempted | 537. the problems that others avoid or give up on can propel you to fame | 0..1..2..3..4..5..6..7..8..9..10 |
| | | problems of high leverage sought | 538. finding a dozen problems that though superficially different, abstractly are identical, allows one solution effort to end up having immensely broad and deep repercussions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | representation changes | 539. having or inventing a dozen differengt frameworks for viewing and representing entities and relations in a problem, reveals aspects no one else noticed that allow solution | 0..1..2..3..4..5..6..7..8..9..10 |
| | | commonsense ideas challenges | 540. the core of each field is based on elemental concepts no one examines, often these are circular ideas from previous ages, challenge them successfully and much else in the field is revolutionaized | 0..1..2..3..4..5..6..7..8..9..10 |
| | Bricolage | seek out minority views and dissent | 541. unlikely soolution components can come from those intentionally or by traditional bias excluded from discourse, publishing, and official support | 0..1..2..3..4..5..6..7..8..9..10 |
| | | network of enterprises | 542. simultaneous parallel engagement in diverse projects allows opportunistic borrowing of ideas and items from one domain for instant application in another entirely different one | 0..1..2..3..4..5..6..7..8..9..10 |
| | | items in 1 domain used in another | 543. systematic search through other domains, and deliberate graduate mastery of plural other domains, allows casual use of items from a different domain (unknown to your competitors) to handle situations in your own domain | 0..1..2..3..4..5..6..7..8..9..10 |
| | | wildly change contexts and activities | 544. in the midst of the intense, persistent engagement of creating, creators suddenly break off and do utterly different things, allowing associative neural net mind work to replace conscious symbolic mind work | 0..1..2..3..4..5..6..7..8..9..10 |
| | Violation | of boundaries and conformities | 545. creative people legitimate their own snooping (peripheral participation in communities new to them); they go where they are forbidden to go, they use what they are forbidden to use; they test boundaries ruthlessly | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use others | 546. creative people use other people and their ideas, regardless of social norms and boundaries; they do not let prejudice or social niceties prevent using what people offer | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Faustian bargain | 547. once creative people latch onto a way to release their creativity, the imbalanced social, family, lifestyle, or workstyle features it embodies may become a high price they are willing continually to pay for creative accomplishments | 0..1..2..3..4..5..6..7..8..9..10 |
| | | stay on margins | 548. fame, success, and supportive colleagues annoy and are fled from by many creators--they need the darkness of margins (not centers) in order to have enough "edge" to want to create | 0..1..2..3..4..5..6..7..8..9..10 |
| | Ingenue | immigrant | 549. working in cultures other than your own fosters creativity; a disproportionate share of creators are immigrants | 0..1..2..3..4..5..6..7..8..9..10 |
| | | new to a discipline | 550. working in disciplines other than the ones you originally were trained in fosters creation; many creators change fields every nine or so years | 0..1..2..3..4..5..6..7..8..9..10 |
| | | 2 culture 2 field experience | 551. working in a culture and a field other than what one was raised/trained in fosters creativity; more such culture mixes increase creativity achieved if cognitive skills of idea sensing and ordering grow commensurately | 0..1..2..3..4..5..6..7..8..9..10 |
| | | self taught or very young | 552. people who are self taught or who enter fields while very young miss the respect dynamics that cause too much respect of the past and authority figures and traditions in the field, allow naive questions to open up new inventions | 0..1..2..3..4..5..6..7..8..9..10 |
| Combination | Metaphor | cross discipline metaphors | 553. seeing how chemical things are like literature plot situations and like metaphors allows unlikely things to be combined | 0..1..2..3..4..5..6..7..8..9..10 |
| | | images of wide scope | 554. images that fuse entirely disperate phenomena from many areas (hence, abstract images) like Darwin's tree of life drawings in his notebooks, can guide extensive creative processes coherently, causing insights to cumulate | 0..1..2..3..4..5..6..7..8..9..10 |
| | | feature and operation analogies | 555. moving beyond analogies for the obvious featgures of a domain to ones for operationson those features, allows unification, on a conceptual basis, of many operations/features, revealing new operations to try on feature of any one domain | 0..1..2..3..4..5..6..7..8..9..10 |
| | | various precise mappings per metaphor tried | 556. precisely mapping what in one domain corresponds to what in another, exactly how, for each metaphor used, reveals aspecs of eatures, operations, constraints that would otherwise be entirely missed | 0..1..2..3..4..5..6..7..8..9..10 |
| | Abstraction | selective encoding and comparison | 557. what phenomen are "noticed" and how noticed ones are categorized, are determined by often-unconscious abstract models in the mind--pluralizing such models and making them conscious allows new combinations of ideas | 0..1..2..3..4..5..6..7..8..9..10 |
| | | abstracted features, operations, constraints | 558. abstracting features, operations on features, and constraints on those operations, allows uniting ideas on all three levels from concrete, static entities to abstract, dynamic restrictions on what is done | 0..1..2..3..4..5..6..7..8..9..10 |
| | | mental model and simulation | 559. building mental models and running, in your mind, simulations using them of what happens when such and such effects obtain, encourages appaarently separate ideas to be seen as connected | 0..1..2..3..4..5..6..7..8..9..10 |
| | | model directed search | 560. using mental models to direct mental searches for new features, operationsk or constraints on operations, allows intuitions to marry systematic categories to broaden and deepen what is searched for and found | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Combination** | **Index Events** | case index | 561. all the pas creative works and attempted such works of self and admired/despised others, if well indexed by features and the like provide abstract models of what is tried and untried in a field, encouraging novelty | 0..1..2..3..4..5..6..7..8..9..10 |
| | | failure index | 562. all past failed attempts at a solution, if indexed well, reveal general principles of what fails, how it fails, why it fails, hence, inversely, what might work, as a gradually built up specification, that becomes the basis of "sudden" insights | 0..1..2..3..4..5..6..7..8..9..10 |
| | | discourse events | 563. casual discourse with unassociated diverse outsiders of one's creative work or closely related co-workers, can spawn index building insights that allow patterns and commonalities to be suddenly seen | 0..1..2..3..4..5..6..7..8..9..10 |
| | | partial solutions index | 564. finding among various partially successful solution attempts, what worked in them all and what lacked in them all, allows parts of partial solutions to be combined into full ones | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Multiple Worlds** | simultaneous contradictory images tolerated | 565. semi-conscious dreamy reverie wherein contradictory ideas are allowed to associate and join, often spawns invention, insight, and creation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | associated things disunited | 566. making distinctions that one's own field and colleagues refuse, thereby, dissociating united things, often allows new combintions to be invented | 0..1..2..3..4..5..6..7..8..9..10 |
| | | multi-tasking in parallel projects | 567. engaging simultaneously in diverse projects, switching from one to another, so resting by working on one of entirely different contents, encourages wild combinations | 0..1..2..3..4..5..6..7..8..9..10 |
| | | unthinkable combinations | 568. shunning obvious or easy combinations of ideas for difficult or extremely unpopular and unlikely ones, will ocassionally turn up entirely new concepts from entirely unthought combinations of ideas | 0..1..2..3..4..5..6..7..8..9..10 |
| **Selection** | **Counter Intuition** | unlikely scale | 569. creators tend to work on smaller and larger size scales than others, often both simultanaeously, or they take patterns from one scale and apply them to others, working across scales | 0..1..2..3..4..5..6..7..8..9..10 |
| | | unlikely pattern | 570. creators sense the intuitions of others, reproducing them within themselves, in order to go beyond them, seeking patterns that others would not see or value | 0..1..2..3..4..5..6..7..8..9..10 |
| | | unlikely combination | 571. uncreative and creative combinations of others are both surpassed as creators go beyond them toward combinations no one else thinks of or values | 0..1..2..3..4..5..6..7..8..9..10 |
| | | unlikely analogy | 572. the easy and outstanding analogies are voided by creators, who seek, instead, unlikely analogies that no one else would notice | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Articulation** | what works in each partial solution | 573. creeative people articulate, describe exactly, what works in partial solutions, shunning all exaggeration | 0..1..2..3..4..5..6..7..8..9..10 |
| | | what does not work in each partial solution | 574. creative people articulate what does not work, exactly, in each partial solution and why and how it does not work, expressing these with great precision, often diagramming them, or otherwise making them visual | 0..1..2..3..4..5..6..7..8..9..10 |
| | | what prevents each partial solutions from solving entirely | 575. creative people study and articulate with precision exactly what prevents each partial solution from solving entirely, doing their best to articulate the nature and size of the gap and what sustains it | 0..1..2..3..4..5..6..7..8..9..10 |
| | | what is missing from each partial solution | 576. creative people articulate precisely what is missing from each partial solution, what it needs to have but lacks, what the eventual solution requires but the partial solution lacks | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Aesthetics** | beautifully simple | 577. creation requires a certain minimality, in order to shock, surprise, attract notice--solutions that are elegantly simple, make everyone wonder "how could I have missed something so simple and elegant?" | 0..1..2..3..4..5..6..7..8..9..10 |
| | | beautifully interconnected | 578. creation requires wonderful patterns, that attract attention and aesthetic admiration--components if beautifully interconnected in a solution, please entire fields of people with the elegance of their pattern | 0..1..2..3..4..5..6..7..8..9..10 |
| | | beautifully unlikely | 579. creation requires a certain contrarianness to solutions, a certain beautiful unlikelihood to solutions--things that should not have worked worked well | 0..1..2..3..4..5..6..7..8..9..10 |
| | | beautifully competitive | 580. creation requires a certain competitive beauty to solutions, solutions that dwarf competitors, explain them all away, drastically more simple than them or the like, tend to be, by fields, preferred | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Saturated Fields** | simultaneous discovery network | 581. creators usually operate in communities working on similar problems and opportunities, using similarly new tools so who "invents" or "discovers" is often fairly random or a function of subtle marketing--the reality is the entire community invents or discovers and some societies choose to believe only individuals do this work | 0..1..2..3..4..5..6..7..8..9..10 |
| | | pivotal communities | 582. creators choose wisely what communities are ripe for revolutionizing and massive change--they choose where to contribute as their first creative act, tipping balances in conflicted communities, resurrecting dead ones, and so on | 0..1..2..3..4..5..6..7..8..9..10 |
| | | seed discovery | 583. creators look for seed discoveries that crystalize entire fields into new patterns | 0..1..2..3..4..5..6..7..8..9..10 |
| | | self organizing frameworks | 584. creators join in self organizing invention communities, watching carefully as results emerge, clearing away junk and noise, allowing them to be first to see emergent patterns and solutions | 0..1..2..3..4..5..6..7..8..9..10 |
| **Reproduction** | **Explanatory Power** | elaborating a paradigm | 585. creative works get reproduced when they elaborate an existing paradigm better than other works in the field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | challenging a paradigm | 586. creative works get reproduced when they challenge an existing paradigm better than other works and when they defeat defenses of existing paradigms better than other works | 0..1..2..3..4..5..6..7..8..9..10 |
| | | overthrowing an old paradigm | 587. creativg works get reproduced when they overthrow an existing paradigm opening doors for many others to do work not fundable or respected in the past | 0..1..2..3..4..5..6..7..8..9..10 |
| | | instituting a new paradigm | 588. creative works get reproduced when they replace an overthrown paradigm better than other works, drawing funds and followers in new directions and methods they set forth | 0..1..2..3..4..5..6..7..8..9..10 |

R. T. Greene,    A Creativity Checklist

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| **Reproduction** | **Tool & Frame Invention** | distinguishes field phenomena | 589.  frameworks or tools that better distinguish phenomena in a field--often new ways to measure or judge or compare things--get reproduced and widely used by others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fuses field phenomena | 590.  frameworks or tools that fuse phenomena in a field hithertofore considered separate or antagonistic--often new measures or evaluation frameworks--get reproduced and widely used by others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | discovers new phenomena | 591.  frameworks or tools that uncover hithertofore unknown or under-valued phenomena in a field get widely used and reproduced | 0..1..2..3..4..5..6..7..8..9..10 |
| | | invent new tools | 592.  frameworks or tools that result in the invention of still other new frameworks or tools get widely used and reproduced | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Question Invention** | same facts different frames | 593.  seeing the same facts as others but using different frameworks often results in new questions emerging that fascinate others, inciting solution attempts by them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | same frame different facts | 594.  applying usual frames in a field to unusual or different facts in the field often results in new questions emerging that fascinate others, inciting solution attempts by them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | separated facts and frame | 595.  putting together facts not usually viewed with particular frames often results in new questions drawing follow up efforts by others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | united facts and frame separated | 596.  separating frameworks and sets of facts usually considered together in a field, for example, by proving limitations of such unities, often opens up new questions that others persue | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Zeitgeist** | intermingling fields, cultures, and domains | 597.  societies that encourage many fields, cultures, and domains to inter-mingle freely without prejudice or antagonism spawn more creativity than societies with less such mingling | 0..1..2..3..4..5..6..7..8..9..10 |
| | | viable marginal lifestyles | 598.  societies that are wealthy and tolerant enough to allow decent lifestyles from people having extremely marginal or unusual occupations or interests have more creativity than others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | competitive funding and recognition | 599.  societies whose sources of funding and recognition are plural and not consensing with each other offer creators more possible avenues to success, spawning thereby more creativity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | distributed competing authorities | 600.  societies whose authorities of all sorts are well distributed ethnically, intellectually, institutionally and who compete for excellence with each other, trying to outdo each other, offer creators more chances for influence, support, and recognition | 0..1..2..3..4..5..6..7..8..9..10 |

## 64 Question Finding Dynamics

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| **Find Opportunity Gaps** | **Reverse** | trends | 601.  identify all the trends in a field then reverse them;  if, for example, nanotech is growing, then imagine gigatech | 0..1..2..3..4..5..6..7..8..9..10 |
| | | questions | 602.  identify all the hot questions now in a field then organize and reverse them;  if, for example, "what causes X" is a hot one, generate "what does X cause", "what blocks the coming of X" as reverse questions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | priorities | 603.  identify all the big priorities of self or groups to which you belong then reverse them;  if four year projects are the norm and important, then, for example, commit to an eight and a two year project | 0..1..2..3..4..5..6..7..8..9..10 |
| | | biases | 604.  identify all the biases of self and groups to which you belong, then undo them.   For example, if you are a detail person, then practice big pictures and sweeping generalizations | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Depersonalize** | competitor approaches | 605.  identify all competitors you respect greatly or fear, then view them as teachers and friends;  for example, find how your desire to be better tha nthem exaggerates your victories and their weaknesses | 0..1..2..3..4..5..6..7..8..9..10 |
| | | personal limitations | 606.  identify all of your personal limitations, then view them as advantages; for example, what errors do they save you from and how has your desire to minimize them caused error in the past and is causing error now | 0..1..2..3..4..5..6..7..8..9..10 |
| | | organizatinal interests | 607.  identify all the interests of your organization(s) then remove your personal intimidation by them;  for example, how have they distored your agenda, and how do they self-defeat | 0..1..2..3..4..5..6..7..8..9..10 |
| | | field publishings | 608.  identify what gets published and not in your field, then remove how it distorts your work;  for example, imagine numerous unpublishable topics of interest | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Undo Successes** | personal | 609.  identify all of your own major successes and how you have copied and been influenced--rutted--by each afterwards, then undo their influences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | organizational | 610.  identify all of your organization's major successes and how you have copied and been influenced otherwise--rutted--by each aferwards, then undo their influence | 0..1..2..3..4..5..6..7..8..9..10 |
| | | domain | 611.  identify all of your domain's major successes and how you have copied and been influenced--rutted--by each afterwards, then undo their influence | 0..1..2..3..4..5..6..7..8..9..10 |
| | | era | 612.  identify all of your era's major successes and how you have copied and been influenced--rutted--by each afterwards, then undo their influence | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Expand Models** | add scales | 613.  identify the dominant size scale of your current models and then produce much smaller size scale and much larger scale extensions of your models | 0..1..2..3..4..5..6..7..8..9..10 |
| | | interpolate sequences | 614.  identify patterns ordering things in your models and between items interpolate new entities or relations among entities | 0..1..2..3..4..5..6..7..8..9..10 |
| | | extrapolate sequences | 615.  identify patterns ordering things in your models and beyond the ends of each pattern extrapolate smaller and larger items | 0..1..2..3..4..5..6..7..8..9..10 |
| | | change fractal dimensions | 616.  organize all the important dynamics in your model into a fractal model having 3 or more size scales sharing one ordering pattern and branching factor, then expand branching factor, inventing new ideas to fill each blank | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Find Leverage** | **Fully Represent** | customer needs | 617. find all customers or all outputs and find all their requirements, implicit and explicit, latent and present; represent their needs more fully than competitors | 0..1..2..3..4..5..6..7..8..9..10 |
| | | methods | 618. find all the methods in your domain and how they evolved from each other and now influence each other's further evolution; represent the set of all methods more fully than competitors | 0..1..2..3..4..5..6..7..8..9..10 |
| | | tackled questions | 619. find all the questions currently being tackled seriously in your domain and being toyed with in it; represent this set more fully and orderly then competitors | 0..1..2..3..4..5..6..7..8..9..10 |
| | | underleveraged capabilities | 620. find all tghe capabilities of yourself, your field, hat are currently being under-utilized or otherwise slighted; represent the set of all capabilities in the field more fully than competitors | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Socially Index** | needs | 621. measure what all the needs of improtant stakeholders to you are and measure the degree to which you and your field are aware of them; then index all these needs yourself, better than competitors | 0..1..2..3..4..5..6..7..8..9..10 |
| | | interests | 622. measure what all the interests of important stakeholders to you are and measure the degree to which you and your field are aware of them; then index all these interests yourself, better than competitors | 0..1..2..3..4..5..6..7..8..9..10 |
| | | capabilities | 623. measure what all the side discoveries of important stakeholders to your are and measure the degree to which you and your field are aware of them; then index all these side discoveries yourself better than competitors | 0..1..2..3..4..5..6..7..8..9..10 |
| | | side discoveries/ poblems-solutions | 624. measure what all the problems/solutions of important stakeholders to you are and measure the degree to which you and your field are aware of them; then index all these yourself better than competitors | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Seek Intersections** | of problems | 625. plot all problems of interest and all interests on various categhorical models, to find what dynamic of the model clumps of them congregage in; use those cagtegories to raise new questions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | of causes | 626. plot all causes of phonemona in a domain on various categorical models, to find what dynamic of the model clumps of them congregate in; use those categories to raise new questions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | of solutions | 627. plot all solutions of interest on various categorical models, to find what dynamic of the model clumps of them congregate in; use those categories to raise new questions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | of constraints | 628. plot constraints of interest in a prob lem on various categorical models, to find what dynamic of the model clumps of them congregate in; use those categories to raise new questions | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Index** | approaches | 629. build an index of what varies and what does not vary among all the approaches you or others tried;; use that index to invent better questions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | failures | 630. build an index of what varies and what does not vary among all the failures you or others had trying to solve a particular problem; use that index to invent better questions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | causes of failures | 631. build an index of what varies and does not vary among all the causes of failure you or others had trying to solve a particular problem; use that index to invent better qwuestions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | constraints on solutions | 632. build and index of what varies and what does not vary among all the constraints on your eventual solutions; use that index to invent better questions | 0..1..2..3..4..5..6..7..8..9..10 |
| **Change Representation** | **Change Measures** | measure the unmeasured | 633. find aspects of the domain or situation that are unmeasured and measure them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | measure the unmeasurable | 634. find aspects of the domain or situation that people or you yourself have tried to measure in the past and invent a way to measure it now, keeping in mind technologies developed since the last measurement attempt | 0..1..2..3..4..5..6..7..8..9..10 |
| | | make subgtle effect easily observable | 635. invent a way to make subtle effects easily and highly visible | 0..1..2..3..4..5..6..7..8..9..10 |
| | | make obvious effect much less important | 636. invent a way to reduce the salience, visibility, attention, and masking effects of main effects so as to reveal subtle effects never attended to before | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Change Scales** | operate on larger size scale than others | 637. find what size scale all existing work in an area has been done on and operate on a larger size scale | 0..1..2..3..4..5..6..7..8..9..10 |
| | | operate on smaller size scale than others | 638. find what size scale all existing work in an area has been done on and operate on a smaller size scale | 0..1..2..3..4..5..6..7..8..9..10 |
| | | hypothesize on several simultaneous size scales or across scales | 639. find hypotheses, proved and unproved as yet, made on one size scale and extend them to larger and/or smaller size scales | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find change of scale variants and invariants | 640. find what varies and does not vary when scale of viewing or operating is changed larger or smaller | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Change Adjustments** | combine several functions in one device | 641. find several functions now done by separate mechanisms or processes and devise a way for one to do them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find easy variables for changing the main effect | 642. find factors that allow the main effect to be changed easily or at low cost in resources including time and human effort | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find which componnet is causing an effect | 643. find which component of a system out of many is causing a particular effect | 0..1..2..3..4..5..6..7..8..9..10 |
| | | discover an effect never seen before | 644. find an effect of a system never seen, observed, or noticed before | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Change Representation** | **Change Models** | categorize all phenomena in a field | 645. build a categorical model that includes all the phenomena in a particular field or related to a particular topic--ordered multi-scale models are preferred | 0..1..2..3..4..5..6..7..8..9..10 |
| | | build model that reprosuces system behavior | 646. build a simulation that mimics key system behaviors allowing behavior discovery as different inputs/outputs are tried | 0..1..2..3..4..5..6..7..8..9..10 |
| | | automate tedious research processes | 647. invent a way to do quickly, errorlessly, and automatically research processes now done with difficulty, or expensively, and therefore rarely | 0..1..2..3..4..5..6..7..8..9..10 |
| | | parallelize serial situations | 648. invent a way to do many things now done sequentially simultaneously instead | 0..1..2..3..4..5..6..7..8..9..10 |
| **Change Logic** | **Relate** | discover unexplainable phenomena | 649. find phenomena for which there is no current valid explanation--find a mystery | 0..1..2..3..4..5..6..7..8..9..10 |
| | | turn side-effect into main effect | 650. find a context to put around a phenomenon that turns a side-effect into the main effect in a system | 0..1..2..3..4..5..6..7..8..9..10 |
| | | disprove assumed causal connection | 651. prove that a variable that is supposed to cause some outcome does not cause that outcome or, it is a smaller one of several more important causes | 0..1..2..3..4..5..6..7..8..9..10 |
| | | prove unsuspected causal relation | 652. prove that a variable that no one has seriously considered before is actually the cause of an outcome of interest | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Imply** | find contradictory implications of a goal | 653. find unsuspected implications of some already established goal; find dessiderata for meeting that goal that no one suspects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find implications of a goal | 654. find unsuspected implications of some already established goal that are contradictory, putting the attainment of the goal in jeopardy | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find unusual implications of a theory | 655. find implications of a theory that no one has noticed; find situations a theory was thought irrelevant to are actually highly relevant | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find contradictory implications of a theory | 656. find implications of a theory taht no one has noticed that are contradictory, putting teh validity of the theory in jeopardy | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Unify** | show how plural relations are specializations of one | 657. show that several separate relationships are really cases of one overall more fundamental or abstract relationship | 0..1..2..3..4..5..6..7..8..9..10 |
| | | unify incompatible theories | 658. show that hithertofore incompatible theories are actually one theory with different specializations or show how specific incompatibilities can be resolved theoretically or practically | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find invariants in changes of perspective or representation | 659. find things that do not change when you change representation of or perspective on a situation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find invariants to changes in operator applied | 660. find things that do not change when you change the operation applied to a situation | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Cross Fields** | apply problem from one field to another | 661. take a problem in one field and apply that problem to another, by finding a similar problem or a large effect of the problem in that other field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | apply method from one field to another | 662. take a method in one field and apply it to problems in another field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | apply solution from one field to another | 663. take a solution to a problem in one field and find problems in another field that it also solves | 0..1..2..3..4..5..6..7..8..9..10 |
| | | apply result from one field to another | 664. take results from one field and apply them to solve or frame or understand or discover things in another field | 0..1..2..3..4..5..6..7..8..9..10 |

### 96 Principles of Scientific Creativity

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| **Drive Extreme Associations to the Frontier** | **Lots of Extremes** *variation* | lots of contradictions | 665. create own contradictions to resolve--Root Bernstein | |
| | | lots of skills | 666. no skill is useless principle--Young | |
| | | lots of ideas | 667. productivity route to creating: create lots of idea, throw away the bad ones--Linus Pauling | 0..1..2..3..4..5..6..7..8..9..10 |
| | | extreme life | 668. push your life till it is eccentric for serendipity--Disraeli | 0..1..2..3..4..5..6..7..8..9..10 |
| | | extreme parameter settings | 669. vary parameters widely as possible--George | 0..1..2..3..4..5..6..7..8..9..10 |
| | | extreme ideas | 670. find boundary conditions of each idea--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Many Abstract Associations** *combination* | many solutions | 671. generate all possible solutions to see what will sort them--Brillouin | 0..1..2..3..4..5..6..7..8..9..10 |
| | | many media | 672. express results as many ways as possible--Maxwell | 0..1..2..3..4..5..6..7..8..9..10 |
| | | abstract analogy | 673. good = analogy among things; great = analogy among analogies--Ulam | 0..1..2..3..4..5..6..7..8..9..10 |
| | | surface personal philosophy | 674. prior unadmitted philosophy is main reason that new results are not seen or are rejected--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | prime sleep | 675. rehearse outstanding problems before sleep for sleepwork--Lipscomb | 0..1..2..3..4..5..6..7..8..9..10 |
| | | shut off logic | 676. start of insight is giving up on all your own ideas and frameworks = despair; remove idea fences--Fleming | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Drive Strategic Action** *selection* | follow your bliss | 677. find goals that drive you passionately and enduringly--Salk | 0..1..2..3..4..5..6..7..8..9..10 |
| | | self criticize without compromise | 678. self criticize without compromise your own suppositions and results--Huxley | 0..1..2..3..4..5..6..7..8..9..10 |
| | | results from action | 679. get results from taking action not contemplating--Kettering | 0..1..2..3..4..5..6..7..8..9..10 |
| | | invent & disprove | 680. invent big theory then disprove it--Bacon | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find problem systems | 681. find systems of related problems both interesting and important and aim for crux--Medawar | 0..1..2..3..4..5..6..7..8..9..10 |
| | | seek soft underbelly of problem systems | 682. slowly find the soft underbelly subproblem key to impossible one: leave room for chance--Thomson | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Drive Extreme Associations to the Frontier** *person* | **Connect to Frontiers** *reproduction* | seek uncomfortable disequilibrium | 683. seek disequilibrium by working beyond your comfort zone and the comfort zone of your peers and field--Carruthers | 0..1..2..3..4..5..6..7..8..9..10 |
| | | seek data theory gaps | 684. find where data contradicts theory--Pasteur | 0..1..2..3..4..5..6..7..8..9..10 |
| | | flee populars/popularity | 685. go where others flee; leave populatiry, experts, and competition--Wheeler | 0..1..2..3..4..5..6..7..8..9..10 |
| | | do not delegate research | 686. do not delegate key research functions: do own experiments--Burnet | 0..1..2..3..4..5..6..7..8..9..10 |
| | | unite maximal spread/ number of datapoints | 687. best solutions unite maximal datapoints--Helmholz | 0..1..2..3..4..5..6..7..8..9..10 |
| | | symphonic result presenting | 688. symphonic presentation of results: music's unique parallel expression streams impact fields--Bolzmann | 0..1..2..3..4..5..6..7..8..9..10 |
| **Provoke Avalanche of Reframeing/Re-seeing via Self Evolving Idea Breeding** *work* | **Invent Ways to See** *variation* | undo socializations | 689. undo childhood socialization that taught you how to not see and not do and not comment--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find field fads | 690. study history of the field for how fads and fashions affect what is "creative"--Pasteur | 0..1..2..3..4..5..6..7..8..9..10 |
| | | separate finding-verifying strictly | 691. separate search and verification work strictly--Wiesner | 0..1..2..3..4..5..6..7..8..9..10 |
| | | explore areas unmeasured | 692. find great ideas in the areas unmeasured in your field--CS Smith | 0..1..2..3..4..5..6..7..8..9..10 |
| | | see via craft/hand skills | 693. use craft skills to see in new visual and motor ways--Galton | 0..1..2..3..4..5..6..7..8..9..10 |
| | | organize ways to organize | 694. invent ways to interpret, prioritize, and order ways to interpret data--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Evolutionary Mixing Dynamics** *combination* | invent fields | 695. invent fields, then problems then solutions; find field intersections--Taton | 0..1..2..3..4..5..6..7..8..9..10 |
| | | innovate by copying errors | 696. contents of one field applied to thers; accept copying error type innovation--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use discovery follows institution changes | 697. discoveries follow periods of new institution building or restructuring--Gerard | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use bricolage | 698. bricolage: items created in one context get used in another--Toulmin | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use fractal idea growth patterns | 699. fractal growth pattern of ideas, projects, subfields, science as a whole--Holton | 0..1..2..3..4..5..6..7..8..9..10 |
| | | isolate growths for surprise breakouts | 700. isolation creates niches that burst forth into general relevance when environment changes--Cavalli-sotrza | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Perfection's Partiality** *selection* | avoid low entry barrier problems | 701. if someone else can do it, do not do it--Arrhenius | 0..1..2..3..4..5..6..7..8..9..10 |
| | | experiment to find/change not test theory | 702. the further an experiment is from theory, the closer to Nobel Prize--Joliot-Curie | 0..1..2..3..4..5..6..7..8..9..10 |
| | | experiment for find what now, how/why later | 703. find "what" now, and "how/why later"; test discoveries qualitatively before quantitatively--Thompson | 0..1..2..3..4..5..6..7..8..9..10 |
| | | widest possible context framing | 704. frame slight things in widest possible context--Grimm | 0..1..2..3..4..5..6..7..8..9..10 |
| | | seek beauty in models you build | 705. overlook reality's ugliness, seek beauty in models--Dirac | 0..1..2..3..4..5..6..7..8..9..10 |
| | | discoveries first appear as messes needing cleaning | 706. great innovations are discovered in muddy form so do not wait to perfect a discovery--Bohr | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Crystal Clarity** *reproduction* | violate field expectations | 707. seek anomaly, learn what your field expects then seek something else--Kuhn | 0..1..2..3..4..5..6..7..8..9..10 |
| | | conservative/liberal mix | 708. conservative method with liberal topic or vice versa, but not both together--Monod | 0..1..2..3..4..5..6..7..8..9..10 |
| | | maximal viable simplification | 709. as simple as can be but no simpler--Einstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | invent grammars | 710. fewest things most combinations--Szent-gyorgyi | 0..1..2..3..4..5..6..7..8..9..10 |
| | | explore boundary conditions where some data fails | 711. find boundary conditions on which data to believe, which to discount--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | define conditions of validity of data | 712. define conditions of validity of data to mark where theories fail--Bernard | 0..1..2..3..4..5..6..7..8..9..10 |
| **Plurify Breeding of Hybrid People & Systems** *field* | **Marginal Hybrid Cranks** *variation* | stay marginal | 713. stay marginal member to avoid competition, funder agendas, and get chance to explode into species not single result--Robertson | 0..1..2..3..4..5..6..7..8..9..10 |
| | | borrow other fields' tools | 714. train in tools others lack from several fields and emerging fields--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | redo results of others you need rather than trusting their work | 715. do not build on other's results that you have not derived yourself--Planck | 0..1..2..3..4..5..6..7..8..9..10 |
| | | funding without strings for independence of politics | 716. no strings funds plus discretionary part of all funds so field/institution changes happen without interrupting funding--Burch | 0..1..2..3..4..5..6..7..8..9..10 |
| | | many small research funds not few big ones | 717. create small exploratory research funds so people can try many ideas out enough to see if they are possibly interesting (rather than deep funding of deep development of one approach/idea)--Burch | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fund backwater institutions to get beyond mere technique excellence | 718. fund backwater institutions so technique and perfectionism snobbery do not dominate insight--burch | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Plurify Breeding of Hybrid People & Systems** *field* | **Stochastic Leaky Systems** *combination* | perfectly organized systems are near collapse | 719.  perfectly organized systems are on the verge of collapse--Truesdell | 0..1..2..3..4..5..6..7..8..9..10 |
| | | slack creates = creative inefficiency | 720.  keep people under-employed = slack for play, the creativity of inefficiency--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fund people not projects | 721.  fund people not projects, with lifetime grants for proven explorers to encourage field change--Burch | 0..1..2..3..4..5..6..7..8..9..10 |
| | | work at plural grad schools not one | 722.  work at other institutions during grad school to pluralize tools and approaches and contexts--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | multi-task among several problems at once | 723.  tackle several fields and problems at once, rest by switching among projects Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | change fields every 5 to 10 years | 724.  change fields every 5 to 10 years; rebegin beginning--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Plurify & Explode Contexts** *selection* | simple minimal solutions | 725.  simple minimals:  tools, procedures, interpretations--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | retry in other contexts | 726.  retry ideas in other contexts:  an idea failing in one may succeed in another--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | early independent research experience | 727.  early independent research experience for young researchers--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fund ideas not results needed | 728.  fund ideas independenly of initial results;  fund retries under new contexts--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fund threats to established ideas | 729.  more important criterion is threat to cherished field ideas from new work--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | publish counter ideas to peer reviewers ideas | 730.  change peer review to reward countering of peer ideas--edit editing processes that edit away disagreement, divergence, difference, and challenge | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Pluralize Plurality Types** *reproduction* | foster competing journals on same field | 731.  foster competitive journals on the same topic in the same field--Greene | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fund competing subgroups researching same topics | 732.  fund competitive subgroups of different rank/status in a subfield on a topic--Greene | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fund ideas for 5 year units | 733.  fund ideas in  year units so ideas can be developed enough to see implications--Burch | 0..1..2..3..4..5..6..7..8..9..10 |
| | | institutionalize doubting | 734.  institutionalize doubting what you most believe; doubt data you most believe--Agassi | 0..1..2..3..4..5..6..7..8..9..10 |
| | | not biologic but age in field | 735.  not biologic age but age in a field sets limit of 5 to 10 years for creative contribution--Simonton | 0..1..2..3..4..5..6..7..8..9..10 |
| | | minimize what is vali-dated by past successes | 736.  past successes if taken to validate more than their exact specific contents ruin science--Chandrasekhar | 0..1..2..3..4..5..6..7..8..9..10 |
| **Investigate Inner Blocks to Outer Truths** *domain* | **Tool Invention** *variation* | new tools = observations | 737.  great observations come from tool inventions--Harwit | 0..1..2..3..4..5..6..7..8..9..10 |
| | | new tools = discoveries | 738.  most new discoveries come just after new tools come--Harwit | 0..1..2..3..4..5..6..7..8..9..10 |
| | | discovery decrease as tools age | 739.  rapid decrease in discovery after new tools--the intro bang effect--Harwit | 0..1..2..3..4..5..6..7..8..9..10 |
| | | discovery by field outsiders = outsider tools | 740.  discovery by people outside the field = new ideas by using borrowed new tools--Harwit | 0..1..2..3..4..5..6..7..8..9..10 |
| | | military use tools = discoveries | 741.  many new discoveries using tools invented for military use--Harwit | 0..1..2..3..4..5..6..7..8..9..10 |
| | | breakthru researchers invent own tools | 742.  breakthrough researchers invent own tools and use them by themselves--Harwit | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Discipline & Context Combinatorics** *combination* | observational luck + right context of viewing | 743.  many discoveries from observational luck ,were recognized by right contexts of viewing--Harwit | 0..1..2..3..4..5..6..7..8..9..10 |
| | | mentors teach handling ambiguity | 744.  we learn from mentors, not facts, but how to handle ambiguity and confusion--Glashow | 0..1..2..3..4..5..6..7..8..9..10 |
| | | exact for what happened; slop for spot unexpects | 745.  sloppy enough to spot unexpecteds, but exact enough to know what happened--Delbruck | 0..1..2..3..4..5..6..7..8..9..10 |
| | | problems as environments that make better problems visible | 746.  some problems can only be seen and solved in the midst (environment) of others--Eigen | 0..1..2..3..4..5..6..7..8..9..10 |
| | | domains that hybridize with other domains = creative | 747.  domains that welcome hybridization with other fields are creative--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | subdomain glass bead games create | 748.  domains that regularly restructure and recombine subfields are creative--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Rut Surfacing Repertoires** *selection* | never trust the obvious | 749.  never trust the obvious;  never skip surfacing/challenging own assumptions--Macfarlane | 0..1..2..3..4..5..6..7..8..9..10 |
| | | theory determines whats observable | 750.  theory determines what's observable; so do not induct theory from data alone--Maier | 0..1..2..3..4..5..6..7..8..9..10 |
| | | minimize formal training | 751.  minimize formal training and rove outside your field regularly--Carruthers | 0..1..2..3..4..5..6..7..8..9..10 |
| | | develop solving menu | 752.  develop solving menu, seek abstractions, decompose till solvable;  match approach to subproblem;  solve by analogy; reason from knowns--Infeld | 0..1..2..3..4..5..6..7..8..9..10 |
| | | maximize bad/ unexpected side-effects | 753.  maximize unexpected bad or side effects then change what you discover--Langmuir | 0..1..2..3..4..5..6..7..8..9..10 |
| | | tackle problems having known rough shape solutions | 754.  tackle only problems whose solution's rough shape you can guess to avoid flailing in the dark--Fermi | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Investigate Inner Blocks to Outer Truths** *domain* | **Outer Exploring is Inner Exploring** *reproduction* | prune assumed contexts around problmes | 755.  popular/assumed/wrong methods and contexts around a problem can make it unsolvable, till they are changed--Keller | 0..1..2..3..4..5..6..7..8..9..10 |
| | | we observe not nature but portion our approach makes visible | 756.  what we observe is not nature but nature exposed by our method of questionning--Heisenberg | 0..1..2..3..4..5..6..7..8..9..10 |
| | | ideas have social territories like animals | 757.  ideas have social territories just as animals do--Root Bernstein | 0..1..2..3..4..5..6..7..8..9..10 |
| | | simplicity from principles | 758.  get simplicity not by simplifying but by applying principles--Bates | 0..1..2..3..4..5..6..7..8..9..10 |
| | | only do experiments that could overturn you own ideas | 759.  trust own failures to understand;  only do experiments that can overturn your own ideas--Medawar | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find abandoned old ideas and revive them | 760.  search the history of your field for abandoned old ideas to retry--Szent-Gyorgyi | 0..1..2..3..4..5..6..7..8..9..10 |
| **64 Sources of Entrepreneurship** | | | | |
| **Social Waves** | **Slack** | rise in wealth changes aspirations | 761.  when populations become wealthier they aspire to new things = market opportunity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | rise in productivity creates play time | 762.  when productivity increases, free time appears that people will spend on something = market opportunity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | plural competing authorities | 763.  when authorities are many, diverse, and disagree, new ideas have many possible homes and supports | 0..1..2..3..4..5..6..7..8..9..10 |
| | | viable marginality | 764.  when marginal ideas and lifestyles are made minimally livable = viable, new ideas they contain can hang around enough and interact enough and get enough human development/elaboration that their worth can be found | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Trend Riding** | entooling popularity competitions | 765.  people compete for what is newest, best, most popular = market opportunity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | equipping youthful divergence | 766.  people distinguish themselves and their entire community or generation from others = market opportunity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reflecting generational identities | 767.  people in groups prefer to see themselves in certain ways that evolve = market opportunity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | turning styles into lifestyles | 768.  people do in style formats what they later do in facility and investment formats--values continue but embodiments become heftier and more expensive | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Substrate Evolution** | replacing established technologies | 769.  all functions of life and work have to be continually re-examined for whether new technologies allow them to be better done now | 0..1..2..3..4..5..6..7..8..9..10 |
| | | upgrading established functions | 770.  new technologies and aspirations continually appear and suggest new functions never possible before | 0..1..2..3..4..5..6..7..8..9..10 |
| | | extending established customer sets | 771.  overshoot and undershoot customers--where your product is too much/complex for them and where yours is too little/simple for them--invite extension | 0..1..2..3..4..5..6..7..8..9..10 |
| | | extending established interfaces | 772.  extending interfaces as new substrates and technologies come along involves building interfaces among them, tying new to old | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Rule Discontinuity** | cost obliterations | 773.  cost obliteration happens when new choices/technologies obviate old cost relationships | 0..1..2..3..4..5..6..7..8..9..10 |
| | | tool or interface learning cost obliterations | 774.  learning costs, time to master, errors per time learning, often are a barrier to purchase or change of brand | 0..1..2..3..4..5..6..7..8..9..10 |
| | | life & work style obliterations | 775.  obliterating a life or work style happens with substrate or technology change makes an entire style unviable, unattractive | 0..1..2..3..4..5..6..7..8..9..10 |
| | | aspiration obliterations | 776.  aspiration obliteration happens when substrate or technology change wipes out what people used to hope for | 0..1..2..3..4..5..6..7..8..9..10 |
| **Combinatorics** | **Combining Technologies** | cultivating technology ecosystem dynamics (pc printers: niches make niches) | 777.  one product/service becomes a niche inviting others, exponentially increasing | 0..1..2..3..4..5..6..7..8..9..10 |
| | | instancing intellectual movements in new subtrates (cellularity) | 778.  abstract functions and ideas, in the form of one technology often are upgraded by others, allowing unlikely combinations among technologies | 0..1..2..3..4..5..6..7..8..9..10 |
| | | refounding technologies on new abstractions (DNA & computers as programs) | 779.  when two different technical areas are seen via one very abstract idea to be similar, entire new industries, like bio-informatics uniting DNA as programs with software computer programs) can appear | 0..1..2..3..4..5..6..7..8..9..10 |
| | | refounding technologies at new size scales (nanofabrics) | 780.  much of scientific progress comes from new tools extending scales at which people observe or create to larger or smaller scales | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Combinatorics** | **Combining Cultures** | tribal entrepreneur diasporas | 781.  particular ethnic groups spread around the world as immigrant waves of entrepreneurs--Indians in Africa, Chinese in Southasia, Jews in Europe and the Americas, Japanese in Brazil | 0..1..2..3..4..5..6..7..8..9..10 |
| | | immigration from constrained to unconstrained | 782.  people tend to move from constraint to less constrained economies, offering more room for ordinary citizens to build and progress | 0..1..2..3..4..5..6..7..8..9..10 |
| | | solving one culture's neuroses (re-engineering as the femininity of productivity) | 783.  many management fads, fashions, and techniques are masculine looking versions of things not at all masculine, or US looking things that are not US-like, or technical looking things that are not at all technical--making some culturally different actions palatable via cultural movements, technologies and the like is a primary business avenue | 0..1..2..3..4..5..6..7..8..9..10 |
| | | framework repertoire expansions | 784.  encountering otherness expands one's repertoires of response, even when no particular new actions were undertaken while "abroad" | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Combining Industries** | societal infrastructure minimal industry sets (automobile navigation) | 785.  certain products cannot be even imagined except by a combination of certain extremely different industries | 0..1..2..3..4..5..6..7..8..9..10 |
| | | infrastructure replacement time staging (driving automation) | 786.  certain products make no sense except as what present times allow as a step towards a much more powerful overall product/goal for the distant future--progress products rather than arrival products | 0..1..2..3..4..5..6..7..8..9..10 |
| | | explosive research acceleration (bio-informatics) | 787.  certain products can only be imagined when order of magnitude differences in research are undertaken, allowing entire new tool sets and infrastructures to get invented together | 0..1..2..3..4..5..6..7..8..9..10 |
| | | communicating more of human experience (erotic haptic devices) | 788.  certain products can only be imagined when a host of new techniques and technologies are configured so as to magnify the power and sensitivity of particular core human sensation machineries or thought machineries | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Cluster Dynamics** | ideas flowing to institutional homes | 789.  ideas flow between firms looking for people and organization and resources matching potentials | 0..1..2..3..4..5..6..7..8..9..10 |
| | | talent flowing to idea homes | 790.  people flow between ideas, embodied in firms, looking for somethiing evoking their passions and capabilities | 0..1..2..3..4..5..6..7..8..9..10 |
| | | funding flowing to realizable idea products | 791.  funds flow between ideas and firms, looking for paybacks possible in certain time windows | 0..1..2..3..4..5..6..7..8..9..10 |
| | | disciplinary refounding of ideas resourced | 792.  ideas flow across practices and disciplines of knowledge (across functions in firms) with greater difficulty than across firms because ideas have to be reinvented in different practices/disciplines--translated into different preferred knowledge model types | 0..1..2..3..4..5..6..7..8..9..10 |
| **Structural Focal Points** | **Righting Business Equation Imbalances** | finding or following customers better | 793.  entire industries have arisen from finding and following customer wants better | 0..1..2..3..4..5..6..7..8..9..10 |
| | | finding or developing suppliers better | 794.  entire industries have arisen from finding and following suppliers better | 0..1..2..3..4..5..6..7..8..9..10 |
| | | inventing or improving processes better | 795.  entire industries have arisen from finding and following process improvements better (Dell for example) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | inventing or revolutionizing customer satisfactions better | 796.  entire industries have arisen from finding and following changes and changers of customer wants better | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Filling Structural Holes** | bridging satisfaction gaps | 797.  gaps between what products do and what satisfies customers invite new firms | 0..1..2..3..4..5..6..7..8..9..10 |
| | | bridging idea network gaps | 798.  gaps between key networks of ideas invite new firms | 0..1..2..3..4..5..6..7..8..9..10 |
| | | bridging organization gaps | 799.  gaps between key organizations invite new firms | 0..1..2..3..4..5..6..7..8..9..10 |
| | | creating new gaps | 800.  creating new technologies, organization forms, market events that cause satisfaction/idea/org gaps invites new firms | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Institutionalizing Non-Linearity Effects** | finding and using tipping points | 801.  finding tipping points in large non-linear systems invites new firms | 0..1..2..3..4..5..6..7..8..9..10 |
| | | tuning interacting populations till avalanches occur | 802.  tuning populations interacting till avalanche effects across the entire system appear invites new firms | 0..1..2..3..4..5..6..7..8..9..10 |
| | | productizing side-effects | 803.  discovery of side-effects invites using them as main effects of a new firm or technology | 0..1..2..3..4..5..6..7..8..9..10 |
| | | pruning away chaff from emergents | 804.  being first to clear away junk/noise from emerging results of myriad interacting things to spot discoveries or innovations intives new firms | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Idea Manufacture** | morphological forecasting | 805.  new substrates, ideas, tools, technologies plotted against themselves in giant matrices, with rows and columns grouped in various ways by similarity, looking for intersection areas of high value, invents new firms | 0..1..2..3..4..5..6..7..8..9..10 |
| | | dimensions of difference analysis | 806.  plotting chronologically all new entrants/ideas in a market by all firms, noting dimensions along which each differs, grouping such dimensions, then interpolating and extrapolating new firms along them invents new firms | 0..1..2..3..4..5..6..7..8..9..10 |
| | | the 40 TRIZ moves of inventing | 807.  studying all patents in one particular product finds 40 general operators for turning one invention into 100s of others, the same across all domains--applying the 40 to any one new idea/product invents new firms | 0..1..2..3..4..5..6..7..8..9..10 |
| | | creativity dynamics applied | 808.  each of 60 models of creativity applied to one new invention or technology results in new ways to use or improve it that invent new firms | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Personal Motivations** | **Refusal to Salute** | revenge for being crushed by exploitation (drive to be own boss or lord over others) | 809. people invent firms for revenge | 0..1..2..3..4..5..6..7..8..9..10 |
| | | escape male monkey-like hierarchy | 810. people invent firms for cultural escape from animalistic organization life | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reject costs of conformities | 811. people invent firms to be free of conformity and social pressures | 0..1..2..3..4..5..6..7..8..9..10 |
| | | frustrated by rejection of own ideas | 812. people invent firms to get ideas seen, funded, and respected that were slighted before | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Personal Chemistry** | want to work with someone | 813. people invent firms to get paid to hand around with people they like spending time with | 0..1..2..3..4..5..6..7..8..9..10 |
| | | friends happen to fill key venture role set | 814. people invent firms because their friends happen to fit together if a certain business is invented | 0..1..2..3..4..5..6..7..8..9..10 |
| | | work to fund continuance of great conversations | 815. people invent firms and products in order to get paid to continue certain high quality conversations with others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | sharing dreams | 816. people invent firms in order to realize a common idea or dream they share | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Refusal of Anonymity** | the show off personality | 817. people invent firms who have to be the life of the party, the center of attention | 0..1..2..3..4..5..6..7..8..9..10 |
| | | the polis drive (reject anonymity from increased organization size) | 818. people invent firms who must have an identity, a name, a basis of respect in greater society, they must be visible in large scale society | 0..1..2..3..4..5..6..7..8..9..10 |
| | | drive for historic audience of the unborn | 819. people invent firms who wish to be remembered after they die by those yet unborn | 0..1..2..3..4..5..6..7..8..9..10 |
| | | drive to leave personal mark on every situation | 820. people invent firms who wish to leave every situation changed and influenced | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Parenting Invention** | fathering ideas that stand up to entire history and tradition | 821. people invent firms because they wish to parent historically rich and unusual ideas | 0..1..2..3..4..5..6..7..8..9..10 |
| | | mothering baby ideas past demons of the past | 822. people invent firms because they wish to nurture small fragile uniquenesses/ideas that old social forces threaten to kill | 0..1..2..3..4..5..6..7..8..9..10 |
| | | civilizing new wildernesses | 823. people invent firms because they spot frontiers in danger of staying barbarous and harmful unless civilized | 0..1..2..3..4..5..6..7..8..9..10 |
| | | re-embodying love in a world that erodes it | 824. people invent firms because they feel responsible to make love more central and visible in a world of cold selfish barbarians | 0..1..2..3..4..5..6..7..8..9..10 |

### 64 Dynamics of Creative Performance

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|---|---|---|---|---|
| **Design Emergence** | **Inspiration on Command** | illusion of first time | 825. performances have to be repeated again and again, each time creating the illusion within the performer and the audience that it is the first time | 0..1..2..3..4..5..6..7..8..9..10 |
| | | insight on cue | 826. repeating performances again and again amounts to requiring insight to appear on cue, inspiration to appear on cue, a contradiction | 0..1..2..3..4..5..6..7..8..9..10 |
| | | consistent creativity | 827. consistent creativity is nearly impossible--research finds that creators cannot predict which of their works or performances are judged great and which are judged trash, they do not get better over time at such predicting--yet repeated performances require being interior and creative and beiing exterior again and again, consistently | 0..1..2..3..4..5..6..7..8..9..10 |
| | | simultaneous creation evaluation | 828. performance is both real time live composition and real time live performing at the same time, with real time live evaluation and tuning of composition and performance | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Self as Tool** | performer as violinist and violin both | 829. performers are both the violinist and the violin at the same time--the instrument being played and the player of the instrument | 0..1..2..3..4..5..6..7..8..9..10 |
| | | relaxation = tuning violin | 830. relaxation, blanking the heart and mind before and during performing, is like tuning a violin, getting it on pitch, strung neither too tight nor too loose | 0..1..2..3..4..5..6..7..8..9..10 |
| | | tune self and environment | 831. performers tune their selves and their environment both, the former by relaxation, the latter by context setting and relaxation inducing dialog with co-players | 0..1..2..3..4..5..6..7..8..9..10 |
| | | nature of life is the message | 832. performers always convey the same message--this is truly life--life is truly this--being alive is this--this lived experience is that, the ground from which all being arises, this is that, as ancient Hindu mystics said | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Illusory Reality** | live through a role | 833. performers live situations through their assigned rehearsed role, playing the role as it plays the situation with other roles being played by others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | respond to imaginary objects as if to real ones | 834. performers during performing respond to imagined objects and persons as if they were real and present--they strip all trace of "being an audience" or having "audience reactions" to their own performing out entirely | 0..1..2..3..4..5..6..7..8..9..10 |
| | | see eternity but go on living | 835. performers drive each interaction of roles, each scene from mundaneity, through experience, through symbol, to eternal meaning, but go on living into the next scene--touching the divine again and again without choosing godlyness of humanity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | out of life in order to be in it | 836. performers are cool detached in the midst of their most emotive and moving work, they leave situations and feelings, watching from afar from a cool detached zen-like place of transcendent peace, they leave life in order to be fully in it | 0..1..2..3..4..5..6..7..8..9..10 |

R. T. Greene,    A Creativity Checklist

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| **Design Emergence** | **No Mind Obstruction** | find and keep flow | 837.  performers seek out that balance of working slightly beyond all one's own best abilities fully engaging all aspects of one's situation, at the absolute limit of what one can now grow to do, that causes "flow" the transcendent feeling of the universe working through you, using you, to work its own magic powers | 0..1..2..3..4..5..6..7..8..9..10 |
| | | it creates itself stance | 838.  the roles that performers perform create themselves, they are not created by the performer | 0..1..2..3..4..5..6..7..8..9..10 |
| | | true desire for moksha, release | 839.  performers seek and find moksha, true mystic release from the burden of the cycle of life, the suffering that being conscious in a world is, and at that moment in the performance touch and awaken the audience's desire for moksha, all seeing all in the depths of their struggle to be happy in a world of suffering | 0..1..2..3..4..5..6..7..8..9..10 |
| | | own mind as show (self consciousness = choking) | 840.  performers avoid choking, self conscious awareness and tinkering with details of their performing, via seeing their own minds as shows, before them, letting their own minds operate while watching the contents of their minds from a rational and emotional distant points, the same point reached in zacen meditation = one's own mind as generator of worries | 0..1..2..3..4..5..6..7..8..9..10 |
| **Manage Paradox** | **Repetition** | fresh versus repeat | 841.  performances are fresh but repeated such freshness, a contradiction | 0..1..2..3..4..5..6..7..8..9..10 |
| | | spontaneous versus script | 842.  performances are spontaneous doings of entirely scripted things, a contradiction | 0..1..2..3..4..5..6..7..8..9..10 |
| | | open-ended versus known outcome | 843.  performances are open-ended lived moments having fully known rehearsed scriped outcomes, a contradiction | 0..1..2..3..4..5..6..7..8..9..10 |
| | | rehearse versus appear improvised | 844.  performances appear improvised and surprising but are rehearsed and repeated, a contradiction | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Recreation** | truth versus imitation | 845.  performances are encounters with Truth, yet done via imitation of truth | 0..1..2..3..4..5..6..7..8..9..10 |
| | | private versus public privacy | 846.  performances are public exposures of very private moments, public forms of privacy | 0..1..2..3..4..5..6..7..8..9..10 |
| | | rehearsal work versus performance work | 847.  performances are the work of repeating, in rehearsal, and the work of repeating, in performances--watched by professionals work and watched by non-professionals work--dual audiences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | create not imitate reality | 848.  performances create reality while imitating it repeatedly | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Role Expresses** | face versus mask (self versus tool) | 849.  performance roles are masks, that is tools, that reveal faces, that is selves | 0..1..2..3..4..5..6..7..8..9..10 |
| | | physical versus spiritual makeup | 850.  performance roles use physical make up to signal and evoke spiritual makeup | 0..1..2..3..4..5..6..7..8..9..10 |
| | | event versus plot | 851.  performance roles enact events, one after another, that are sensed and seen as events, surprising unique ones, that constitute afterwards a sequential coherent plot of a story | 0..1..2..3..4..5..6..7..8..9..10 |
| | | internalize versus express | 852.  performance roles internalize feelings and experience deeply, in order to, exteriorize them fully; going out by going in first | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Detached Engagement** | move audience remain unmoved | 853.  performers move audiences while remaining unmoved themselves--viewing their own generation of role passions from detached perspectives | 0..1..2..3..4..5..6..7..8..9..10 |
| | | relaxation versus concentration | 854.  performers achieve concentration by relaxing not by marshalling intensity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | calculation versus warmth | 855.  performers evoke warmth via calculated moves that project subtle interior things using overt moves, acts, gestures | 0..1..2..3..4..5..6..7..8..9..10 |
| | | dead versus alive | 856.  performers pick up the dead areas of life and people and after handling them within their assigned roles, leave them live | 0..1..2..3..4..5..6..7..8..9..10 |
| **Perfect Parts** | **Connection** | sing song versus sing piece of life | 857.  performers sing songs if they are bad and sing pieces of life they and their audiences have experienced if they are good--great technique viewed versus "a piece of my life I had forgotten or overlooked or undervalued" viewed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | see performer versus see life | 858.  if audiences see a performer performing the performance is a non-performance; if the audiences see life, there again before them, as a live moment, a re-living of moments of real lives, the performance is a performance | 0..1..2..3..4..5..6..7..8..9..10 |
| | | create reality of script situation versus wanted audience reaction | 859.  performers struggle while performing to create the reality that the script circumscribes and approaches, performers do not struggle to impact audiences--it is the reality the script circumscribes that impacts audiences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | celebrate versus critique the times | 860.  performers even when their role critiques the times and their people are celebrating the joy of being alive in a world one finds fault with--all performed critique is also celebration | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Perfect Parts** | **Expression** | personal habits of expression block expressing | 861. performers rehearse in order to overcome personal habits of expression that get in the way of projecting, that is, expressing adequately to real audiences, contents not amenable to happenstance, casual, habits of expressing | 0..1..2..3..4..5..6..7..8..9..10 |
| | | actor concentration produces audience response | 862. performers fully doing their assigned role, in interaction with related roles and situations, induce audience response, performers trying to induce audience response directly fail to do so | 0..1..2..3..4..5..6..7..8..9..10 |
| | | structural finding of subtexts in texts | 863. performers aware of the symbolic meanings embedded as subtexts around and in texts weave frameworks of interpretation and association and feeling around performed role parts that evoke audience impact; performers unaware of these subtext contexts leave just what is on stage to evoke audience impact--it is inadequate for that task | 0..1..2..3..4..5..6..7..8..9..10 |
| | | substitute experience memory menu | 864. performers develop a menu of own experiences matching role experiences they must project and protray, expanding that menu and improving its matching | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Grounding** | memory, intellectual, physical, sensual, emotional grounding | 865. performers develop kinds of memory--intellectual, physical, sensual, emotional--amazing audiences by using them to recall, to audiences, parts of life and experience they cannot face or remember, as audiences try to hold onto experience using only one or two of these four types of memory, not professionally trained and honed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | cues: plot, event, sense, emotion | 866. performers seek plot cues, event cues, sensation cues, and emotion cues that put them into what to say and do next, what their role's response is | 0..1..2..3..4..5..6..7..8..9..10 |
| | | experience: author, actor, audience | 867. performers weave 1) author experience, 2) their own personal experience, 3) their own actor experience, 4) the audience's personal experience in general, and 5) the audience's experience of the performance | 0..1..2..3..4..5..6..7..8..9..10 |
| | | performers as audience | 868. performers are audiences of their own and other actors' performances but they dare not react to their own audience experience with the actual audience--instead they react purely as their role | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Timelessness** | character, gesture, role as message | 869. we do not see the life we live while living it--only art, only performance allows us to see our experience, to experience our experience, the weigh and judge, appreciate and marvel at it | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reasonableness and unreasonableness of each fragment of life | 870. while living an experience we automatically edit out the vast majority of its contents, keeping ideas, beliefs, and habits in our lives consistent--but in art, we open ourselves to unedited vaster versions of the contents of our own lives, finding all sorts of things we edited out, and what we left out tells us who we are and need to become | 0..1..2..3..4..5..6..7..8..9..10 |
| | | epiphantic journey till illusion is lost | 871. performances bring audiences to epiphany points, where self imagery and self awareness change forever, stripping comfortable illusions, making lives wider, deeper, more tolerant, more appreciative of life's richness & limitation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | omphalotic stance of whole performance | 872. performance wipes out time's erosion of feeling, value, memory by reconstituting lived moments, repeating them, bringing our past back to us as present, making us, for moments, eternal, not doomed and mortal--the eternity of humanity lives through us, constitutes us, is us, and the ego we mistake for us, merely gets in the way causing suffering and error | 0..1..2..3..4..5..6..7..8..9..10 |
| **Distinguish Performances** | **Training** | game: search heuristics | 873. games are performances testing our ability to search, find, and recognize | 0..1..2..3..4..5..6..7..8..9..10 |
| | | sports: can versus will | 874. sports are performances testing our ability to will all that we can do | 0..1..2..3..4..5..6..7..8..9..10 |
| | | business: impression permits reality | 875. business requires high performance testing our ability to fully manage impressions while actually dealing with realities | 0..1..2..3..4..5..6..7..8..9..10 |
| | | war: habit saves thought | 876. wars are performances testing our ability to let habit save us from errors thought causes | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Compassion** | love: disclose vulnerable self | 877. love cannot be manufactured or faked because it is continual live real disclosure of vulnerabilities to another we trust, in performance, the audience must be embarrassed for the lover as he/she reveals what audience members would shudder to have anyone know about them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | leader: lead by following | 878. leadership is performance that induces others into leading, risking, going beyond comfortable safe skilled responses to situations prepared for--leaders are the people who volunteer to handle messes, blow ups, threats that wilt the rest of us | 0..1..2..3..4..5..6..7..8..9..10 |
| | | high performance: historic dream community | 879. high performance is erecting a culture of shared automated routines among a group--all cultures are high performances vice versa, all high performances are erected cultures; high performers weave people around them into sharing a historic dream and erecting a community around realizing that dream | 0..1..2..3..4..5..6..7..8..9..10 |
| | | invent: cognitive revolution | 880. invention is revolutionizing cognition, thinking entirely differently about important things, losing favored and long depended on certainties, moving out into new conceptual land | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Distinguish Performances** | **Empathy** | public speaker: teach audience better self requirements | 881.  public speakers as a type of performer teach audiences to require better more stringent things of themselves--they invite people to live using higher standards than the societies they were born into and are now in | 0..1..2..3..4..5..6..7..8..9..10 |
| | | artist (singer etc.): repeated inspiration | 882.  artists as performers repeat freshness, repeat inspiration, repeat unique experiences, an impossible feat, amazing audiences with their ability to do freshly an experience for the 1000th time; artists as performers invoke and embody possibilities as soon as possible, turning the utterly new into instant embodied, named, experienced, used tool--they civilize emotive wilderness, name new demons and conquests | 0..1..2..3..4..5..6..7..8..9..10 |
| | | actor:  seeming reality | 883.  actors as performers make the seeming-to-be that is most of life real and make the reality of life seem to be here, now, in front of us, again, as a live matter, re-experiencable | 0..1..2..3..4..5..6..7..8..9..10 |
| | | daily life performance: impression fame | 884.  daily life as performance overcomes all the messages, status rankings, and narcissisms telling us we are not central, others are important--finding the center of all of life and all of life's meaning again here now daily with us, unfamous as we be--enacting the inability of civilization to strip ordinary lives of centrality for the sake of profit-making industries in large cities and empires | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Balance** | device:  negative trade-offs | 885.  devices entice us into certain performances at a cost, usually hidden and unadmited, in dropping other performances | 0..1..2..3..4..5..6..7..8..9..10 |
| | | interview: read while writing | 886.  interviews  entice us into reading our lives while telling or writing them out | 0..1..2..3..4..5..6..7..8..9..10 |
| | | society:  success creates failure | 887.  societies entice us into successes that produce failure as their results--our attempts to be better than others and life guaranteeing that we spent lots of time being worse | 0..1..2..3..4..5..6..7..8..9..10 |
| | | everyman as performer: broadcast liberation | 888.  centralize broadcast industries that have stripped performance from daily lives, condemned tens of millions into just sitting while rich central elites perform have gradually caused invention of new media allowing everyone to be their own theatre, performer, broadcaster--divine justice at last | 0..1..2..3..4..5..6..7..8..9..10 |

**64 Dynamics of Creative Composing**

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| **Wrestle Life into Diamonds** | **Structure for Insight Emergence** | entool to capture chance insights/inspirations | 889.  insights can occur in any circumstance at any time--composers have some notebook or other tool for capturing ideas anywhere anytime | 0..1..2..3..4..5..6..7..8..9..10 |
| | | entool to organize scattered bits of various projects | 890.  composers, though working mainly on some one project, have minds, emotions, imaginations constantly flitting hither and thither to other projects and possibilities, requiring tools for catching and combining scattered insights into coherent bodies of knowledge for particular projects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | mix stimulation and formulation spaces throughout each day | 891.  composers alternate among spaces for stimulating thought and spaces for turning stimulation into concrete outputs and products | 0..1..2..3..4..5..6..7..8..9..10 |
| | | alternate "in the business" time with hermit time | 892.  composers have to leave their selves, work, imaginations, projects, responsibilities for long periods to refresh idea, emotion, motive, means--so they alternate between full engagement time and complete detachment time | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Structure for Productivity** | establish insight and production disciplines and keep to them | 893.  composers combine two disciplines--one for insight production involving alternating egagement with detachment on one problem--one for producing tangible outputs from a host of insights; | 0..1..2..3..4..5..6..7..8..9..10 |
| | | alternate separate generating and evaluating | 894.  composers separate generating and evaluating--often by years or thousands of kilometers, having separate years or homes for each--as over-active evaluation prevents generation entirely and over-active generation turns quickly into junk | 0..1..2..3..4..5..6..7..8..9..10 |
| | | after your best:  seek outside opinion then rewrite | 895.  composers do their best, their very best--when that is attained they are ready to expose it to others for shallow, bad-minded, or valid critique--then they respond to that feedback, not by following its recommendations but merely by inventing unique responses to its points | 0..1..2..3..4..5..6..7..8..9..10 |
| | | write first to discover your thought, second to order it, third to convey that order to audience | 896.  writing is always triple--to find what one feels or thinks, to organize that, the convey that organization to particular others/audiences;  what do I think/feel?  what do these thoughts amount to?  how can this particular audience/person be made to see or feel that? | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Life Anchor** | drive your work through one of life's key moments | 897.  composers seek crucial moments in life through which to open windows on experience, meaning, invention | 0..1..2..3..4..5..6..7..8..9..10 |
| | | peel back defenses | 898.  composers study exactly how people flee from, hide from, avoid responsibility, honesty, truth, sincerity, and the like and peel back such defenses | 0..1..2..3..4..5..6..7..8..9..10 |
| | | let your clear grasp of a powerful part of life, not wording, impress | 899.  composers let the parts of life they capture and reproduce impact audiences, not their own wording or ways of viewing things | 0..1..2..3..4..5..6..7..8..9..10 |
| | | prefer clear fragments to confusing realities | 900.  composers perfer fragments of undistorted truth to coherent wholes only partly true | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Wrestle Life into Diamonds** | **Epiphantic Development** | announce setting and storyline early and clearly | 901. composers announce the setting and main story involved clearly and early to orient performers and audiences, allowing them to know how to interpret what is being said | 0..1..2..3..4..5..6..7..8..9..10 |
| | | balance structure and association; insight and form | 902. composers say somethings but suggest far more, present forms but only to stimulate insight via those forms--they use direct messages only for basic communicative orientation, and use indirect messages for nearly all important meaning content | 0..1..2..3..4..5..6..7..8..9..10 |
| | | go beyond past practice after mastering it | 903. composers master all past forms and genres then go beyond them, using the entire past as a library of materials to be rethought and recombined into some new inventions now | 0..1..2..3..4..5..6..7..8..9..10 |
| | | target moments when lives transform | 904. composers make lists of the types of moments when lives transform and work to populate their works so they are filled with such moments | 0..1..2..3..4..5..6..7..8..9..10 |
| **Connect to Self and Audience** | **Use Media** | demonstrate what the media can communicate | 905. composers demonstrate the power that particular media have to communicate | 0..1..2..3..4..5..6..7..8..9..10 |
| | | avoid demonstrating the media by themselves | 906. composers avoid demonstrating the media themselves | 0..1..2..3..4..5..6..7..8..9..10 |
| | | blend the media roles for synergy and unlikelihood | 907. composers blend media so media interact, each medium playing different roles, often unlikely ones | 0..1..2..3..4..5..6..7..8..9..10 |
| | | make the media help the message | 908. composers make the media subservient to the message being conveyed | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Find Cares** | get in touch with yourself | 909. composers are in touch with themselves | 0..1..2..3..4..5..6..7..8..9..10 |
| | | get in touch with best expressions in the history of your field | 910. composers study the best expressions in history, all media, of each human situation, response, emotion | 0..1..2..3..4..5..6..7..8..9..10 |
| | | get in touch with your times | 911. composers study their times in immense detail and breadth, amazing audiences with economy of exact reference, slight words bringing into emotive reality huge complex current situations | 0..1..2..3..4..5..6..7..8..9..10 |
| | | get in touch with the lives of your audiences | 912. composers study their audiences, particularly, life as encountered by and faced/fled from by audiences | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Find Timing** | make room for insight | 913. composers use plans and plot outlines as locales for insight, not things to execute | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find the rhythms of your field | 914. composers sense the fads, fashions, illusions, fears, politics-based-distortions of their own fields and inject into the rhythms of illusion there, rhythms of disillusion, reality, encounter | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find the rhythms of your times and audiences | 915. composers work at and embody interactions having the rhythm of their times blended or contradicted by the rhythms of other times, past or future | 0..1..2..3..4..5..6..7..8..9..10 |
| | | arrange for surprising release of works | 916. composers release works to punctuate their times, hit tipping points, where slight inputs can have large effects | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Excel** | fully meet your own criteria of excellence | 917. composers fully meet their own criteria of excellence before enduring evaluation by others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | go beyond your field's past forms of excellence | 918. composers use their own field's criteria of excellence and cannon of famous forms as something to go beyond not something to fit into | 0..1..2..3..4..5..6..7..8..9..10 |
| | | excel in what you excel in and how you excel in it | 919. composers carry their own particular points of excellence to ridiculous extremes so visibility is possible | 0..1..2..3..4..5..6..7..8..9..10 |
| | | set up co-invention dialog community | 920. composers via sequences of released works set up dialogs with their audiences co-inventing next works via how they react to previous ones | 0..1..2..3..4..5..6..7..8..9..10 |
| **Produceq** | **Versioning** | drafts for self edits | 921. composers make one draft for self editing | 0..1..2..3..4..5..6..7..8..9..10 |
| | | drafts for feedback from others | 922. composers make another draft for getting the feedback of others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | drafts or observing responses of strangers and evaluators | 923. composers make other drafts for observing how strangers respond | 0..1..2..3..4..5..6..7..8..9..10 |
| | | drafts for impact | 924. composers make other drafts for judging size and kind of impact possible from a work | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Editing** | edit out elements that don't further the emotive point | 925. each part of each work has both a rational, emotional, and interaction goal, with editing done so that anything not contributing to realizing these goals is stripped out of the work | 0..1..2..3..4..5..6..7..8..9..10 |
| | | time the interaction of elements till good things emerge | 926. each part of a work interacts with other parts in complex patterns till things and experiences beyond what is there, written or performed, emerge | 0..1..2..3..4..5..6..7..8..9..10 |
| | | balance unlikelihood with comprehensability | 927. each part of a work is as comprehensible as possible while still being unlikely and as unlikely as possible while still being comprehensible | 0..1..2..3..4..5..6..7..8..9..10 |
| | | seed avalanches | 928. each part of a work is aimed at a possible tipping point inside the psyche of audience members or in society's networks of concerns and institutions | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Testing** | anonymous tests | 929. works are tested, stripped of who wrote them, and any fame of that author, to get non-status impacts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | named tests | 930. works are tested, with author identification, to get non-status combined with status/fame effects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | comparative tests | 931. works are tested for what works they compare positively and negatively with | 0..1..2..3..4..5..6..7..8..9..10 |
| | | competitive tests | 932. works are tested for what works they outshine or are outshined by | 0..1..2..3..4..5..6..7..8..9..10 |

R. T. Greene,   A Creativity Checklist

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|---|---|---|---|---|
| **Produceq** | **Becoming Incomparable** | design surprises | 933.  composing is the design of surprises that get beyond what people expect, are prepared to defend themselves from, and prefer to view | 0..1..2..3..4..5..6..7..8..9..10 |
| | | revision of canon of your field | 934.  composing revises the canon of the field, arranging and prioritizing and looking at it from new points of view | 0..1..2..3..4..5..6..7..8..9..10 |
| | | make latent contents of field explicit | 935.  composing makes explicit latent contents of a field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fit society best, avoiding society's cliches | 936.  composing makes products that fit society perfectly, that is, fit realities perfectly, while shunning completely cliche, habit, tradition, bias, delusion, lies, and fleeing from reality | 0..1..2..3..4..5..6..7..8..9..10 |
| **Make Room for Emergence** | **Insight Emergence** | keep environments rich and diverse | 937.  composing takes place amid environments rich in diversity and makes works that are such environments for audiences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | alternate engagement with detachment | 938.  composing takes place in alternate periods of engagement and detachment and erects such periods in audiences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | practice applying foreign frameworks | 939.  composing takes place amid carefully selected or experimentally selected foreign un-habitual environments and erects such environments for audiences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | follow up slight hunches | 940.  composing follows up the slightest hints and hunches in life and gets audiences to do the same when interacting with the composed work | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Work Emergence** | plural simultaneous projects | 941.  composers engage in plural simultaneous diverse projects, resting from one project by engaging with another | 0..1..2..3..4..5..6..7..8..9..10 |
| | | canabalize past works | 942.  composers use ruthlessly parts of their own and others' past works as words in new works as sentences built of such words | 0..1..2..3..4..5..6..7..8..9..10 |
| | | bricolage | 943.  composers freely use items taken from one context in entirely different contexts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | create and plurify markets | 944.  composers create new markets and make markets more diverse and tolerant | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Opportunity Emergence** | befriend connectors | 945.  composers befriend well connected people, seeking particular resources across wide social networks, rather than being friendly to many people or everyone they meet--they are judicious socially | 0..1..2..3..4..5..6..7..8..9..10 |
| | | network peers and competitors | 946.  composers live and work in networks of peers and competitors and pulse with idea waves and contending movements | 0..1..2..3..4..5..6..7..8..9..10 |
| | | collect cross-generation mentors | 947.  composers collect mentors from several different age and generation groups to keep the power of ideas and advice relative | 0..1..2..3..4..5..6..7..8..9..10 |
| | | seed success via extreme productivity and distribution | 948.  composers produce, produce, produce, and distribute, distribute, distribute--depending on gradually accumulated responses to find and suddenly one day propel their entire oevre to fame or wide exposure | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Career Emergence** | surprise strings | 949.  composers construct their careers as strings of surprising contributions and directions, not predictable ones | 0..1..2..3..4..5..6..7..8..9..10 |
| | | build own social movement | 950.  composers build their own social movements, using their works from time to time to mobilize supporters/customers around the world via events, exhibitions, and performances | 0..1..2..3..4..5..6..7..8..9..10 |
| | | match attracted resources and followers | 951.  composers match resources they attract with followers they attract to fund entire schools of similar or supportive efforts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | en-school | 952.  composers from time to time formalize their accomplishments and methods and approaches and followers | 0..1..2..3..4..5..6..7..8..9..10 |

### The 64 Purposes of All Arts

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| **Pierce Limits** *art overcomes the limits in life and the world and our selves; it goes beyond such limits with imagination* | **Reveal the Hidden** *personal and social factors cause us to hide from much of reality--art brings us back realities we have hidden from* | performance flaws: error, mistake | 953.  people avoid seeing and admitting error; only fiction, art, or history accurately present error;  comedy and tragedy are based on making error visible, felt, palpable | 0..1..2..3..4..5..6..7..8..9..10 |
| | | goal flaws:  greed, lust | 954.  we paint our faces and world always making things look better than they are, till we forget how they really are;  our real animal nature and drives embarrass us, so we hide them till art reminds us of their power and reality | 0..1..2..3..4..5..6..7..8..9..10 |
| | | mood flaws: tiredness, disagreement, loneliness, weakness | 955.  we like to feel in control of self and world so much we lie to ourselves about it;  art lets us see and admit the gap between what we really feel and what we socially should feel | 0..1..2..3..4..5..6..7..8..9..10 |
| | | criteria divergences: virtue, aspiration | 956.  our primary group of family and close firends is the primary barrier to self change/improvement;  they hate it if our criteria of performance differ from theirs;  art lets us be more than we and they now are | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Overcome Fixed Life Limits** *we get tired of this one world and its one way of doing; art lets us imagine other worlds and ways* | time limits: death, busyness, career | 957.  time powerfully limits our lives in many ways;  death makes life short and competitive;  busyness makes us forget and hurt those we love;  short lifespan forces focus and choice on us that we often dread and delay or do badly;  art reminds us of all this | 0..1..2..3..4..5..6..7..8..9..10 |
| | | physical limits: place, transport, tree height | 958.  thru art we imagine beyond the physical limits of our workd, and create motivation to invent actual ways to get beyond such limits;  media technologies continually get invented to make us present in all spaces and times | 0..1..2..3..4..5..6..7..8..9..10 |
| | | social limits:  wasted lifespan, politicizations, herd conformities | 959.  art lets us vent frustration with social limits on all we aspire to and do;  art lets us name and mock social harms hiding amid social goods and traditions;  the costs of being social ar revealed and refelt via art | 0..1..2..3..4..5..6..7..8..9..10 |
| | | self limits: self centeredness, sin, loss of live | 960.  art lets us imagine a better us and life in which love is true, we do what we promise, and we care for others more than our selves;  art overcomes limits from our selves | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Pierce Limits** — *art overcomes the limits in life and the world and our selves; it goes beyond such limits with imagination* | **Name New Terrors & Dreams** *gradual incipient unnamed things grow below the edge of our awareness till art names them and parades them before us* | external threats | 961. we sense and peripherally see things we are not aware of or can articulate; art invites us to name these incipient feelings; new threats may linger on the margins of consciousness till art by naming them allows us to see and respond to them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | internal threats | 962. we threaten ourselves in various ways, make compromises that erode our primary images, confidence, and values, waste time or relationships out of fear of dying denial, and the like; art lets us name building but subliminal internal disappointments of our selves by ourselves | 0..1..2..3..4..5..6..7..8..9..10 |
| | | external opportunity | 963. things may become possible for us gradually so we are not aware, or avoid awareness due to disruption costs of real chances for change;; art names such building oossibility | 0..1..2..3..4..5..6..7..8..9..10 |
| | | internal opportunity | 964. we can change internally in ways we are not aware of or deny; art shows us new identities, feelings, styles, relations, aspirations possible now for us and names them so we can respond to them and do them | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Make Impossible Combinations** *our world is split by all sorts of divisions overcome by art that combines what in reality is usually never joined* | cross size scale combinations | 965. art builds bridges between the tiny and the gigantic, the eon and the everyday; art fractally frames and spots patterns; it repeats themes on many size scales simultaneously | 0..1..2..3..4..5..6..7..8..9..10 |
| | | cross time scale combinations | 966. art stands in timeless eternal points beyond existence viewing all history and possible futures; art plays the eternal return of past theme in future guises; it bridges eons | 0..1..2..3..4..5..6..7..8..9..10 |
| | | cross discipline and culture combinations | 967. art overcomes the divisions, languages, cultures that forever split us; it binds together what men split; it uses and values diversity that hurts or irritates or overwhelms us;; it presents a bigger more diverse world that we personally choose to deal with and live in | 0..1..2..3..4..5..6..7..8..9..10 |
| | | crosss abstraction metaphoric combinations | 968. art stands at very abstract viewpoints seeing pattern and unity missed in our quotidian busyness of local viewing; art spots patterns acrosss widely separated and differing realms; it makes the world's diversity more manageable this way | 0..1..2..3..4..5..6..7..8..9..10 |
| **Cause Reflection** — *art is a mirror in which we see parts of life that we normally forget or flee; it reflects us to ourselves* | **Admit Gaps** *the gaps in life between word and deed, self and other, immortal imagination and mortal body are recalled by art and admitted* | self gaps: word/deed dream/career | 969. we disappoint ourselves then forget that we do so; art recovers these self disappointments, these gaps between our social images and our personal realities, our aspirations and our real accomplishments | 0..1..2..3..4..5..6..7..8..9..10 |
| | | social gaps: self/other love/care | 970. we each have a love-hate relation to society and others; we need them but wish independence of them; we go beyond them but fall behind them too; we daily pretend to have nothing but social adequacy but art forces us to see that is mere pretense | 0..1..2..3..4..5..6..7..8..9..10 |
| | | performance gaps: need/supply reality/possibility | 971. we think of ourselves as always meeting our needs or working towards that but in reality we ignore or block many of our most important needs; art is where we admit the tinyness of our lives and deeds | 0..1..2..3..4..5..6..7..8..9..10 |
| | | anxiety of existing gaps: imagination/mortality plan/side-effects | 972. our consciousness of our selves, our deaths, our limited lifespans, spawns profound anxieties within us that we flee or deny or fail to admit; art shows us the true parameters of our lives without flight or denial | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Recall Life's Best & Worst Experiences** *our experience of life is so rich we cannot bear it in mind for long, losing awareness of it till art lets us recall its moments* | know yourself | 973. music can instantly transport us back to a specific wonderful past moment; other arts can also do the same; art indexes our experiences, allowing us instant access to our lives and selves in earlier forms; art is a time machine for the self | 0..1..2..3..4..5..6..7..8..9..10 |
| | | know others | 974. we have so many experiences, so many places, so many other people that constitute us, our lives, our memory, yet access is hard or impossible till art opens doors to people and places we have forgot | 0..1..2..3..4..5..6..7..8..9..10 |
| | | know what you know | 975. we in daily life consciousness cannot really know what we know, feel what we experienced, think what we thought, remember who we are or who they were in our lives, till art maps journeys across our lives and feelings | 0..1..2..3..4..5..6..7..8..9..10 |
| | | know what you do not know | 976. we pretend to competence, control, influence, trying always to appear more important and powerful than we really are, till art brings us face to face with all we do not yet control or know | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Find the Minimal Essential Traits that Define** *we love impersonators and mimes for they exercise our minds' great powers of suggestion; art exercises these powers* | minimal movements | 977. our minds are highly suggestible so that a tiny single gesture can recall an entire person or era for us; art plays with such powers of our brains; it explores the minimal gesture needed to recall maximal contents/import | 0..1..2..3..4..5..6..7..8..9..10 |
| | | minimal form | 978. a photo fragment or long forgotten news clipping can transport us to lost eras and places instantly; art explores the minimal traits, smells, colors, or shapes needed to thusly transport us to large lost worlds or persons of experience | 0..1..2..3..4..5..6..7..8..9..10 |
| | | minimal reference | 979. there are particular ways to refer to something that bring it all back well; art explores just hat these ways are, the ideal most compact most suggestive powerful representations of anything and everything in life; art seeks actively what the slightest way to effectively refer to something is | 0..1..2..3..4..5..6..7..8..9..10 |
| | | minimal recognition | 980. there are edges to the mind's capabilities that art explores thoroughly; art seeks out what the slightest sorts of input are that suffice to recall or recreate the largest fogotten or denied realities | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Exchange Local for Distant Frameworks** *art lets us view our selves and world using unusual distant frameworks so we see patterns never seen before* | novelty as historic swing from one pole to the other | 981. the exciting inventions of our time and age seem impressively new only because we forget or never learned the past; often radical novelties are merely swings done over decades from one pole to another of some polarity, revealed by art | 0..1..2..3..4..5..6..7..8..9..10 |
| | | value of present practice from what it replaced | 982. the value in what or how we do something now may lie entirely in what that practice replaced when it was first invented and popularized; art shows us the relativity of values undoing our absolutizing of them in daily life | 0..1..2..3..4..5..6..7..8..9..10 |
| | | solutions that perpetuate our problems | 983. people tend to call or name a "solution" only things guaranteed to perpetuate their deepest problems; art shows this to us, forcing us to see the bias, bigotry, and blindness in our goodness, morality, tactics, efforts, budgets, and institutions; art humiliates our solution attempts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | our selves and world as prison | 984. we erect artificial nice worlds to live our lives in, denying most of reality; art reveals this shrinkage of world and experience, showing all we tend to leave out | 0..1..2..3..4..5..6..7..8..9..10 |

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| | **Missing Polis & Limelight** art lets us see what we lack, our desire to perform, the attention we crave; it reminds of liberations wanted or dreamed of | see wanted liberations | 985.  giant central broadcast industries have stripped performance from the daily lives of all;  so we forget what we seek liberation from till art reminds us | 0..1..2..3..4..5..6..7..8..9..10 |
| | | see wanted free collaborations | 986.  the world comes to us prestructured, so we rarely if ever, act freely to invent new social institutions;  art reminds us that all imposing rules and things around us finally are made by aand sustained by men;  art reminds us it is our world to remake, anytime | 0..1..2..3..4..5..6..7..8..9..10 |
| | | see wanted historic dreams | 987.  for eons in rural villages all people performed roles in village festivals, getting limelight and attention for growth; modern societies have lost this tll art reminds us of this loss and our need for audience | 0..1..2..3..4..5..6..7..8..9..10 |
| | | see wanted novelty conserved | 988.  art causes us to see true novelty, newly born into this world, as it gets attacked by established old powerss-that-be; it reveals the ferocity with which the old fights against the new | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Neurotic & Paradoxic Goals** art helps us to see how we are our own enemhy, how there are costs of our talents and how our goals are contradictory | the cost of talents--neurosis | 989.  every talent we have is developed by focus which means inattention to other matters, the lack of the developing of which constitutes the cost of our talents--neurosis;  we are unaware of these costs of our talents till art forces us to see and feel them and their powers | 0..1..2..3..4..5..6..7..8..9..10 |
| | | conntradictory goals | 990.  we want to fit in yet stand out, we want fame and daily anonymity, we want money and love--our goals contradict;  art forces us to see the contradictions in what we want and seek;  it forces use to measure the necessary costs of pursuing or getting what we want | 0..1..2..3..4..5..6..7..8..9..10 |
| | | imbalances manitained because alternatives unknown | 991.  we often do or repeat things because we are unaware that ther are alternative values or ways to be;  art, by showing dramatically such alternatives often as lived by others, reveals our ways as traps, and opens us to possible change | 0..1..2..3..4..5..6..7..8..9..10 |
| | | side-effects overwhelm intended effects | 992.  we build up our selves and plans and deeds so much that we continually are blind to unintended effects of our actions that are much larger than the intended ones;  art reveals these costs of doing what we promise | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Culture as Blindness** what we love the most, what we are, enslaves us, revealed by art that investigates the certainties of belief, the costs of growing up local | assumed goodness of born into:  self, gender, home, nation, era, profession | 993.  without examining or experiencing the vast majority of places, ways to live, or people we have confidence that the way we were born is best;  art attacks this basic bias/error in all of us | 0..1..2..3..4..5..6..7..8..9..10 |
| | | distaste of or refusal of other cultures/ways | 994.  our own ways of doing are automated by lots of practice and lubricated by unthinking social supports;  others' ways are hard to do, unautomated and unsupported;  art shows how we misinterpret that difficulty as error or weakness or inferiority of others' ways | 0..1..2..3..4..5..6..7..8..9..10 |
| | | tiny personal repertoires of thought or act | 995.  as we grow older and nearer to death, we find we occupy a tinier and tinier fragment of ways of biieng and frameworks for viewing life;  art shows us just how tiny our views, values, and ways are, and other who have larger selves and lives via culture encounters and blends | 0..1..2..3..4..5..6..7..8..9..10 |
| | | lack of skills of spotting and learning other ways | 996.  art reveals our unpreparedness for a world of diverse values, views, and ways;  it shows how we avoid learning and change;  it shows how hard we work to miss or slight the ways of others | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Incipient Edges of Consciousness** slight continual incipient changes go on all the time, not seen or named till art sees and names them | pop trends: news, music, lingo, pop | 997.  the basics of the world are continually changing but art updates us, by concentrating the slight and incipient changes in all domains of life into dramatic or funny or otherwise memorable events | 0..1..2..3..4..5..6..7..8..9..10 |
| | | flight/fight: fears/dreams threats/chances | 998.  our emotions are also continually changng, sensing new fears or possibilities; art updates our emotions by making large, clear, dramatic, and visible the slight changes in mood and emotion in and around us | 0..1..2..3..4..5..6..7..8..9..10 |
| | | mismatches:  lifestyle, family, culture | 999.  as we continually change and things around us change, so change mismatches appear where what we provide no longer fits what we or others need, art reveals these emergilng mismatches | 0..1..2..3..4..5..6..7..8..9..10 |
| | | insincerity:  issue responses, ruoles (reversals) | 1000.  responses become habits and new values in us that as things change, gradually become ineffective then insincere responses;  art reveals how our best efforts or intents have unwittingly become insincere and ineffective responses | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Find New Questions** art reveals entirely new questions that mystify us and change what we investigate and pursue | find new opportunity gaps | 1001.  art shows us gaps all around us that, by filling, we might revolutionize the world;  art reveals chances to become creative by spotting and fililng such gaps | 0..1..2..3..4..5..6..7..8..9..10 |
| | | find leverage | 1002.  art shows us places where small actions can have giant disproportionate effects;  by highlighting such non-linearities in life art shows us ways to revolutionize knowledge or deed via minimal but well focussed and located input--the doorways to impact | 0..1..2..3..4..5..6..7..8..9..10 |
| | | change representations | 1003.  art gives us entirely new ways to represent things which changes of representation can reveal solutions to longstanding problems or new problems worth tackling | 0..1..2..3..4..5..6..7..8..9..10 |
| | | change logic | 1004.  art giv es us entirely new logics by which to link one thought to another, revealing new implications of existing knowledge never seen before; these new implications can uncover new problems to tackle or new solutions to well known problems | 0..1..2..3..4..5..6..7..8..9..10 |

**See Better** art helps us to see more and see it more accurately;  it gives us more of a world to be in

**Spawn Creation** art establishes in us all the conditions for becoming creative; it sets up group and individual creativity

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| **Spawn Creation** *art establishes in us all the conditions for becoming creative; it sets up group and individual creativity* | **Create Creation Capability** art gives us step by step the wherewithal to create our selves; it inspires the mental room for imagining and changing all else | make interior and exterior room | 1005. art can stop the habits and priorities of our daily lives and give us new physical and emotional space in which imagination can grow toward full creativity; art can set us free of enough to unleash forces of creation in us | 0..1..2..3..4..5..6..7..8..9..10 |
| | | mental travel and find paradox | 1006. art can transport us mentally and expose paradox far and wide to us till we re-see the world and discover how to create it anew or populate it with creations we invent | 0..1..2..3..4..5..6..7..8..9..10 |
| | | create creation machine and use it to create | 1007. art can expose us to precisely the creation dynamics or devices we have avoided or omitted, thereby pushing us over the edge from self doubt and hesitancy to bold attempts and brazen innovations | 0..1..2..3..4..5..6..7..8..9..10 |
| | | conquer emergent failures, manage emergent insights | 1008. we design and plan good things but often there emerges something better than we planned, which we miss if we love or attend to our plans too well; art helps us see and value emergent results | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Improve Quality** art raises the question of the quality of all we see and do, and inspires us to improve quite generally the quality of all about us | choosing and understanding your audiences | 1009. art can reveal audiences to us, possible audiences, and particular dynamics in such audiences; by doing so it can give us the idea of how to create what those audiences would value or admire | 0..1..2..3..4..5..6..7..8..9..10 |
| | | mastering changing technologies of supply and production | 1010. art can reveal new substrates for doing old functions and new funtions to do with old and new substrates; by doing so, art invites use to radically renew what we do and how we do it, turning everything we attempt into creation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | improving production process | 1011. art can reveal new ways of work that no one has tried yet or pioneer lives of people doing things entirely new ways; seeing this can cause us to greatly improve how we work or spur us to attempt better deeds due to new means of getting things done | 0..1..2..3..4..5..6..7..8..9..10 |
| | | inducing higher quality requirements in your customer-audience | 1012. art can enlarge your view of what your audience can aspire to and attempt; it can inspire you to lead your audience beyond what presently satisfies it; it can inspire you to improve what your audience requires | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Beyond All** art invites us to go continually beyond all we have seen and done before; it invites extreme trespass and extrapolation;l it shows limits to overcome | dimensions of difference analysis | 1013. art can show the sequence of innovations in a field so we notice the abstract ways ne items got envisioned and done; by extrapolating or interpolating along those seen dimensions or inventing new ones of our own, we become creative contributors to those fields | 0..1..2..3..4..5..6..7..8..9..10 |
| | | historic levels of improvement in technique | 1014. art can show the abstract principles by which all techniques in the past were improved; by interpolating and extrapolating along them or inventing new such dimensions we can become creators ourselves | 0..1..2..3..4..5..6..7..8..9..10 |
| | | historic levels of perception/expression of emotion/feeling | 1015. art can review for us the history of how people have seen or expressed parts of experience or the world; by viewing this we can imagine better percepts or expressions of our own that make us creative contributors | 0..1..2..3..4..5..6..7..8..9..10 |
| | | cognitive fault lines found and tripped into societal tipping points | 1016. art can reveal to us he fault lines in idea territories along which major idea quakes may occur; art shows us tipping points where small inputs have huge outcomes | 0..1..2..3..4..5..6..7..8..9..10 |
| **64 Dynamics of Creation Power** | | | | |
| **Discovering Liberty** *Stopping Existence Mortality MYSTERY* | **death sentence Limitless Inadequacy DESPAIR** | STUBBORN REALITY | 1017. Mind as Repeated Labor; repeated blocking or failure; drawing five jacks | 0..1..2..3..4..5..6..7..8..9..10 |
| | | FAILURE OF ENTIRE SELF | 1018. Inevitability of Despair; exhaustion of all you do and know; quicksand, every move sinks me deeper | 0..1..2..3..4..5..6..7..8..9..10 |
| | | I AM MY ENEMY | 1019. Letting Go of Self and World; something fundamental in who you are or what the world is, is at fault; house of mirrors | 0..1..2..3..4..5..6..7..8..9..10 |
| | | THIS LIFE IS OVER | 1020. Letting Go of All Provisos and Excuses; utter despair at continuing, having a life, as at present; caught in the headlights | 0..1..2..3..4..5..6..7..8..9..10 |
| | **last straw Absurd Turning Point HOMELESS** | AT LIMIT OF TOLERANCE; | 1021. Forced to Change; saturation; end of the road | 0..1..2..3..4..5..6..7..8..9..10 |
| | | BEYOND TOLERANCE; | 1022. Forced to Radical Totalizing Change; super saturation; not even close, miss by a mile | 0..1..2..3..4..5..6..7..8..9..10 |
| | | COLLAPSE OF THE OLD SELF; | 1023. Anihilation of All Partial Responses; tipping point releases system-wide avalanches in me; the butterfly flaps one wing | 0..1..2..3..4..5..6..7..8..9..10 |
| | | COMMIT TO UNKNOWN; | 1024. Nothingness Embraced as Better; absolute end of road of existing system and you; Alice alls through the rabbit hole into another world | 0..1..2..3..4..5..6..7..8..9..10 |
| | **act of rebellion Inventing Your Self THE BREAK** | HAVING SHEER EXISTENCE | 1025. Standing Against; the act of courage of saying "no"; choosingmy destiny, so this is my battleground | 0..1..2..3..4..5..6..7..8..9..10 |
| | | DEFINING MYSELF | 1026. Forcing Response, burned bridges, a bulls eye on my forehead | 0..1..2..3..4..5..6..7..8..9..10 |
| | | WANTING CHALLENGE | 1027. Forcing Death of Old Ways; refused compromises and threats; the rat rejects its cheese | 0..1..2..3..4..5..6..7..8..9..10 |
| | | WANTING VICTORY | 1028. Meeting the Onslaught; start of war of liberation; they just don't get the point | 0..1..2..3..4..5..6..7..8..9..10 |
| | **entry to no man's land Impossible Task UNCER-TAINTY** | NECESSITHY FOR ME | 1029. Practically Impractical; utter loneliness; the road never before taken | 0..1..2..3..4..5..6..7..8..9..10 |
| | | UNSEEABLE VICTORY | 1030. The Optimism of Hopelessness; hopeless odds; the outrageous is my normalcy | 0..1..2..3..4..5..6..7..8..9..10 |
| | | FIGHTING ALL | 1031. Confirmationlessness; the whole world is my enemy; with friends like you who needs enemies | 0..1..2..3..4..5..6..7..8..9..10 |
| | | FINDING ANOTHER LIBERATED ONE | 1032. Plural Uniqueness; discovery of other liberated ones; utterly alone together, simultaneous discovery | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Obeying Freedom** *Spawing Surprise Natality CONSCIOUSNESS* | emergence of colleagues **Wealth of the Not Yet SURVIVAL COMMUNITY** | TOUGH TOGETHERNESS | 1033.  Saved by Dire Threat; fighting for survival together; eleven fingers in the dike | 0..1..2..3..4..5..6..7..8..9..10 |
| | | VISION BEYOND TOUGHNESS AND THE PAST | 1034.  Unencumbered Actions;  imagining alternative worlds and institutions together; living fantasy | 0..1..2..3..4..5..6..7..8..9..10 |
| | | BEYOND EXCUSES | 1035.  Rethinking All; refusal of past inside selves in own operatons; reflective garbage disposal | 0..1..2..3..4..5..6..7..8..9..10 |
| | | POSESSING ONLY HONOR | 1036.  Living in Visions; making and keeping promises to each others; building houses with words | 0..1..2..3..4..5..6..7..8..9..10 |
| | emergence of novelty **From Trying to Trying MICRO INSTI-TUTION DEVELOP-MENT** | LIVING SHEER EXPERIMENT | 1037.  Unencumbered Actions; novel intents and means attempted; bricolage | 0..1..2..3..4..5..6..7..8..9..10 |
| | | SURVIVING EXPERIMENTALLY | 1038.  Handling Essentials with Innovations;  focus from survival struggles; a boat made of balloons | 0..1..2..3..4..5..6..7..8..9..10 |
| | | SURPRISED BY NOVELTY | 1039.  Insights as Doors Not Contents;  emergence of solutions better than imagined or planned ones; my ideas are birth leavings of the real ideas | 0..1..2..3..4..5..6..7..8..9..10 |
| | | SEPARATING NOVELTY FROM CHAFF | 1040.  Perceiving Emergents; struggle to see and preserve what emerges;  in this haystack there is a needle somewhere I believe | 0..1..2..3..4..5..6..7..8..9..10 |
| | emegence of power from nothing **The Promise Land PROMISE POWER** | CAPTIVATED BY POSSIBILITY OF NEW NOVELTY | 1041.  Investing All Self, Time, Past; labor to create really new vision and realize it; sweating inventions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | FASHIONING THE NEW NOVELTY ECOLOGICALLY | 1042.  Projecting New Designs; one new niche deserves/requires another; forced into more innovation than planned; this innovation has a hole there requiring that innovation;  fashioning and plugging holes in being | 0..1..2..3..4..5..6..7..8..9..10 |
| | | ENACTING THE NEW NOVELTY | 1043.  Launch Initiatives Handle Consequences; risk-filled action to realize novelty; pulling bottom cards form a house of cards | 0..1..2..3..4..5..6..7..8..9..10 |
| | | SURPRISED BY POWER | 1044.  Power from Honor; emergence of new power beyond planned or envisioned powers; the story retelling game done with inventions--our process is better than our intended result so let's institutionalize that | 0..1..2..3..4..5..6..7..8..9..10 |
| | emergence of public forms of happiness **Completely Expended Life "flow" PIONEER HAPPINESS** | ESCAPE FROM LIFESTYLES | 1045.  Settling for Unsettledness; abandonment of personal lifestyle goals; a cityscape made of tightropes | 0..1..2..3..4..5..6..7..8..9..10 |
| | | RELEASED FROM PRIVATE HAPPINESS | 1046.  Happily Unhappy; immolation of daily happinesses;  work as one long party; my old self and life and happinesses were but hobbies, these new ones are real | 0..1..2..3..4..5..6..7..8..9..10 |
| | | THESE BEGINNINGS ARE ENDINGS | 1047.  Victory Realized; realization that colleague interactions already are your new enviroined world;  the hut is really a castle | 0..1..2..3..4..5..6..7..8..9..10 |
| | | SURPRISED BY HAPPINESS | 1048.  Beyond All Dreams; sudden emergence of a new public form of happiness; if I were to live for a 1000 years....; I am doing daily what others only dream about or read about in books | 0..1..2..3..4..5..6..7..8..9..10 |
| **Global and Historical Dreams** *Local Globality Plurality CARE* | drama "see what is happening here" **Whistle Points Found GLOBAL VISIBILITY** | AGAINST ALL ODDS | 1049.  David versus Goliath; the unfair fight; root for the underdog | 0..1..2..3..4..5..6..7..8..9..10 |
| | | RADICAL IMPROVISATION | 1050.  All Responses Inventions; the unimagined tactics;  unheard of acts applied at unheard of places | 0..1..2..3..4..5..6..7..8..9..10 |
| | | SURPRISED BY VICTORY | 1051.  Resistance Becomes Conquest; the miracle of victories; the slammed door becomes archway into a new world | 0..1..2..3..4..5..6..7..8..9..10 |
| | | ENTIRE OLD WAY UNDERMINED | 1052.  Loyality Switchby Bystander Masses; hints of entire systems crumbling; one pillar pulled and the entire ediface tumbles | 0..1..2..3..4..5..6..7..8..9..10 |
| | representative-ness "show the way" **The Most Individual Becomes the Most Social GLOBAL POSSIBILITY** | I AM THIS FUTURE | 1053.  Transformational Identity;  new personal, group, mankind identities discovered;  continually remaking "I" not inheriting it | 0..1..2..3..4..5..6..7..8..9..10 |
| | | I LIBERATE EVERYONE | 1054.  Globalization of Local Acts; possibility for everyone now changed by what we do here and now; changing the definition of humanness | 0..1..2..3..4..5..6..7..8..9..10 |
| | | I LEAD THE WORLD | 1055.  Global last Straw Generation; unity of mankind experienced in shared vision of new future; eyes lighting up with hope worldwide | 0..1..2..3..4..5..6..7..8..9..10 |
| | | I AM THE WAY | 1056.  Instructionless Instructing;  my life becomes teaching; the garbageman professor | 0..1..2..3..4..5..6..7..8..9..10 |
| | haven "send me your huddled masses" **Replication Your Selves A WORLD OF LIBERATIONS** | POSSIBILITY FOR OTHERS | 1057.  Demonstrating Possibility; exported hope; people everywhere seeing possibility where before there was none | 0..1..2..3..4..5..6..7..8..9..10 |
| | | INVITING ALL OTHERS | 1058.  Novelty's Generosity; limitless sympathy; seeing all those others trapped in their selves and lives | 0..1..2..3..4..5..6..7..8..9..10 |
| | | NEW RECRUITS | 1059.  Training the World;  immigration; volunteer army | 0..1..2..3..4..5..6..7..8..9..10 |
| | | MY STORY COPIOUSLY COPIED | 1060.  Inspiring Emulation; replicated liberation and freedom; baby revolutions spawned everywhere | 0..1..2..3..4..5..6..7..8..9..10 |
| | fame "the audience of the unborn and ancestors" **Humanity's Drama HISTORICIZA-TION OF PER-SONS** | POWERLESS PAST | 1061.  Status from Transformation Contribution; beyond the past; beyond past status hierarchies; new monkeys, new bananas | 0..1..2..3..4..5..6..7..8..9..10 |
| | | DAILY TOTAL RELEVANCE | 1062.  Pioneering Normalcy; completely relevant daily lives; my privacy published | 0..1..2..3..4..5..6..7..8..9..10 |
| | | AVATAR EXISTENCE | 1063.  Emergent Divinity;  living archetypes; olympion destiny; the purpose of my life was this all along though I was probably never going to discover it in my old way of living | 0..1..2..3..4..5..6..7..8..9..10 |
| | | WRITING HISTORY WITH DEEDS, SPEAKING WITH ACTS | 1064.  I Write History; writing history ourselves, writing with deeds not words; living ideas | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Defending the Future** *Conserving Novelty Immortality PEACE* | measuring fragility of the new Baby Care RISKS OF BIRTH | INSTITUTIONAL MISFIT | 1065. Ecosystems Disrupted; the new encounters all institutinal arrangements; the old church beside the cell phone store | 0..1..2..3..4..5..6..7..8..9..10 |
| | | RELATIONSHIPS MISFIT | 1066. Emotions Disrupted; the new counters all personal habits; powers that be besides themselves | 0..1..2..3..4..5..6..7..8..9..10 |
| | | COOPERATION MISFIT | 1067. Agreement Disrupted; the new is not well defined enough to be consensed on; suddenly people stay awake during meetings | 0..1..2..3..4..5..6..7..8..9..10 |
| | | UNFATHOMED | 1068. Novelty as Door Not Content; the new as it first appears may only be the tip of an iceberg of further novelty; pull the string and a new sun appears | 0..1..2..3..4..5..6..7..8..9..10 |
| | countering eroding powers of the past Distinguishing ASSIMILATION THREATS | COUNTER INSTITUTIONAL ASSIMILATION | 1069. Breaking Inter-Organization Dependencies; the past assimilate the new institutionally; old things are easy to do | 0..1..2..3..4..5..6..7..8..9..10 |
| | | COUNTER PERSONAL PROCESS ASSIMILATION | 1070. Breaking Inter-Personal Dependencies; the past assimilates the new procedurally; old things are automatic | 0..1..2..3..4..5..6..7..8..9..10 |
| | | COUNTER INTERPRETIVE ASSIMILATION | 1071. Breaking Misinterpretations; the past assimilates the new into plural diverse past frameworks of interpretation; "oh we used to that all the time" | 0..1..2..3..4..5..6..7..8..9..10 |
| | | COUNTER OFFENSE FORGETTING | 1072. Breaking Mindlessness; the passage of time causes forgetting of "last straw" violations, the arrogance of past systems now overthrown, the harm they did gets forgotten; "what was I revolting about" | 0..1..2..3..4..5..6..7..8..9..10 |
| | acting to protect the new from the old Socializing Transformation NEW PARADIGM ESTABLISHED | MONITOR EROSIONS | 1073. Erosion Watches; set up monitoring of specific erosion types; keeping watch on the sneaky past | 0..1..2..3..4..5..6..7..8..9..10 |
| | | COUNTER EROSIONS | 1074. Erosions Blocked; counter particular erosion actions; blocking and tackling the past | 0..1..2..3..4..5..6..7..8..9..10 |
| | | INSTITUTIONALIZING COUNTERING | 1075. New orthodoxy Establishment; institutionalizing cntinual monitoring and countering of erosion forces; ossification vaccines | 0..1..2..3..4..5..6..7..8..9..10 |
| | | MONITORING INSTITUTIONALIZING | 1076. Inviting Liberation from Your Just Created Novelty; monitoring of effectiveness of institutionalizing of continual monitoring and countering; self criticism of self ossifications | 0..1..2..3..4..5..6..7..8..9..10 |
| | acting to revise the old in light of the new Back to Zero OLD PARADIGM REPLACED | SEEING WITH NEW EYES | 1077. Persuing Other Possible Liberations; seeing the entire past differently from new viewpoints; poking society lookking for soft spots | 0..1..2..3..4..5..6..7..8..9..10 |
| | | ANALOGOUS LIBERATIONS | 1078. Surveying Possible Liberations; finding analogous parts of the past needing analogous liberations; investigating each possible such liberation spot; detecting revolution | 0..1..2..3..4..5..6..7..8..9..10 |
| | | SPOTTING OVERWEENING | 1079. Self Editing of Strained Analogies; overweening analogous wanted changed found and debunked; editing own ideas, finding borders of validity of own recently installed innovations, subtracting enthusiams out to see novelties naked for what they are, good and bad mixed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | SEEKING ANALOGOUS LIBERATIONS | 1080. Normalization of New Liberation Seeking; institutionalizing continual search for further similar revisions of past; liquefying society; from solid to gas, from gas to plasma | 0..1..2..3..4..5..6..7..8..9..10 |

**128 Ways to Create from the Information Design TRIZ Model of Creativity**

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| **Acquisition** | **Resource** | focus on steps, space, time, value add | 1081. reduce resources needed for steps, reduce space needed, reduce time, increase value added via making all steps add value that final users/customers see | 0..1..2..3..4..5..6..7..8..9..10 |
| | | redirect wastes from own/other process | 1082. direct wastes from own process to outside; deflect wastes from outside coming in; or use outside wastes coming in a new resources by setting up means of converting them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | share/split resources with other subsystems | 1083. share resources with other subsystems, split resources with other subsystems, alternate use of resources with other subsystems | 0..1..2..3..4..5..6..7..8..9..10 |
| | | convert other properties and resources into resources | 1084. convert properties of system into resources; convert one type of resource into another type | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Space** | compactify segregate space by value | 1085. specialize spaces, making filled ones more filled, empty ones more empty, till new uses for them appear | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use wasted surface, 3 D spaces | 1086. use surfaces that are now unused, use 3rd dimensions "go vertical"; bunk bed, bunk desks | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use spaces within other spaces | 1087. fractally specialize spaces, using spaces within other spaces on different size scales | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use spaces intermittantly | 1088. have several functions that are made intermittant or digital share the same space, taking turns using it | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Time** | parallelize eventize sequences and processes | 1089. take sequential steps and get as many of them as possible done simultaneously; take processes and get as many as possible done together in one mass workshop event | 0..1..2..3..4..5..6..7..8..9..10 |
| | | eliminate waits, permisssions, checks | 1090. distribute authority and information and checking so as to eliminate waits, permissions, and checks | 0..1..2..3..4..5..6..7..8..9..10 |
| | | aggregate components off-line | 1091. distinguish live on line components from off line supports and specialize spaces, one for on line parts and others for off line suppors | 0..1..2..3..4..5..6..7..8..9..10 |
| | | do core not periphery | 1092. continually kill off peripheral functions and processes so core ones can be better attended to, resourced, and optimally use available time and resource | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Energy** | focus step, space, time, value adds | 1093. focus energy on steps, propoer spaces, good timing, and adding value final user receives | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reuse own or adjacent waste energies | 1094. convert own or nearby waste energy into use energy | 0..1..2..3..4..5..6..7..8..9..10 |
| | | convert ambience or use changes into energy | 1095. convert environment of use condition changes/variations and user operation effects into available energy | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use ambient fields, moves | 1096. use motions and force fields in the environment of use as sources of energy | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Solving** | **Frame Problem** | state in non-domain language | 1097.  state problems using language of general discourse, avoiding specialist terms and vocabulary, to confirm real meaning is there and to freshen contexts beyond hackneyed over-used professional ones | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fractal space, time, environment representation | 1098.  represent the interactions among size scales (fractality) of space, time, and environments of operation/use | 0..1..2..3..4..5..6..7..8..9..10 |
| | | constraint release fantasies:  change ways, levels matrix | 1099.  fantasize about what things could be done or would be like of particular constraints could be overcome or ignored, then change ways things are done, make levels matrix of things possible without constraints to trade-off among subsystems till you can "pay" for ways to overcome those constraints | 0..1..2..3..4..5..6..7..8..9..10 |
| | | contradictions, ideal solutions, self as environment, way evolution | 1100.  articulate contradictions (what contradicts what exactly), articulate ideal solutions (how they differ exactly from suboptimal solutions), articulate your self as environment (what exactly are your routines and assumptions embedded in use/design processes), articulate how ways (of you or device parts) evolve | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Resolve Contradictions** | optimize subsystem A harms B | 1101.  resolve how optimizing subsystem A harms subsystem B--trade-offs among subsystem performances | 0..1..2..3..4..5..6..7..8..9..10 |
| | | constraints requiring contradictory functions | 1102.  resolve constraints that require impossible combinations of functions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | free energy as unwanted feature | 1103.  resolve free energy in a design that wanders around causing trouble when optimized by design work out of particular parts of the design | 0..1..2..3..4..5..6..7..8..9..10 |
| | | voice conflict: customer, suppliers, process, CEO | 1104.  articulate and quantify precisely conflicts among voice of customer, voice of suppliers, voice of process, and voice of CEO as intersecting in a process or design, inventing technology to convert zero-sum conflicts into win-win ones | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Solution Approaches** | analogize/exapt; idealize/adapt | 1105.  take parts of the environment, user, or device design invented and used for one purpose and use them for other purposes in entirely different contexts of use from other parts of the design | 0..1..2..3..4..5..6..7..8..9..10 |
| | | decompose/intergrate; simplify/pluralize | 1106.  split unified things, integrate split things, simplify complex interacting things, and distribute unitary things to interacting populations of things | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reverse;focus; distribute;self organize | 1107.  reverse means, reverse ends, reverse focus (make environment core, make core environment), distribute concentrated or located functions, substitute self organization for imposed designed organization | 0..1..2..3..4..5..6..7..8..9..10 |
| | | continuous/discoutinuous; flex/fix | 1108.  switch analog to digital, switch digital to analog; switch flexible to fixed, switch fixed to flexible | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Tools** | effects of effects matrix | 1109.  make matrix of all parts of a design plus all operations on those parts by environment of use or users (as rows and same items as columns) putting in intersections effects of all parts/operations on all other parts/operations, then spot intense interdepency areas for redesign using or eliminating those dependencies | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fractal subsystem separations, interactions models | 1110.  model subsystem interactions fractally--that is, interactions on three or more size scales, among components | 0..1..2..3..4..5..6..7..8..9..10 |
| | | standard solving contradiction resolving heuristics | 1111.  keep list of standard solving approaches, standard contradictions to resolve, and standard design heuristics making such all are examined for each component designed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | embedded agents visualization | 1112.  empower components with own information plus rules of responding to information, particularly, rules allowing visual display and responding to info from other "agent" parts--recognize states parts/configurations of parts are in and adjust behaviors of other subsystems appropriately | 0..1..2..3..4..5..6..7..8..9..10 |
| **Technique Evolution** | **Combinatorial Efficiency** | shared supports:  by several high level functions | 1113.  each high level function having not its own personal supports but general supports that also support some other high level functions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | high level fuctions not needing supports | 1114.  prefer high level functions that do not require outside supports over ones that do require them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | core function plurified by tweaking add-ons | 1115.  enable core functions to do other functions by clever inexpensive add-ons that redirect or otherwise modify its forces, directions of applications, or effects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | plural functions combined in one interface | 1116.  simplify interactions among subsystems by making one interface that allows plural functions to be accessed, modified, or used rather than separate interfaces for each function | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Boundary Innovations** | technology removal: properties replace subsystems | 1117.  review entire design to eliminate technologies, reduce complexities, for example, replacing sensors with physical holes, replacing chains of force transmission with single invented links | 0..1..2..3..4..5..6..7..8..9..10 |
| | | boundary/interface standards | 1118.  standardize interfaces and boundary interaction paths across all design subsystems and parts so as many things as possible can be combined and can interact without redesign work or design tweaking | 0..1..2..3..4..5..6..7..8..9..10 |
| | | part population combined into function population | 1119.  get functions not done by parts specially designed for each but instead done by more generally capable populations of elements each doing very simple generic functions well that are combined to do more elaborate functions:  hence, a population of function modules combines to do millions of functions, using reconfiguring of the same elements, instead of new elements for each complex new function | 0..1..2..3..4..5..6..7..8..9..10 |
| | | self sense, repair, develop tune | 1120.  add data and sensation to key subsystems and parts so they repair and tune performance and develop themselves rather than having to be fixed by design parameters forever | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Technique Evolution** | **Self Configuring** | mobile+continuous-dimensionality+ | 1121. make subsystems self configuring: make parts mobile, make parts continuously variable, make parts capable of composition into second or third dimensions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | self evolving configurations and functions | 1122. make subsystems with configurations of elements that self organize to do particular functions, rather than having fixed configurations for limited function repertoires | 0..1..2..3..4..5..6..7..8..9..10 |
| | | increase voids | 1123. review all design aspects to eliminate specified traits and functions that are not essential, so all things can vary along dimensions not having to be fixed--these "design voids" allow parts and subsystems to be tuned and configured to do new behaviors automatically by adding info to the design or as easy reconfiguration redesigns at later dates | 0..1..2..3..4..5..6..7..8..9..10 |
| | | self monitor, adapt, reconfigure | 1124. add information and sensation to design elements so they monitor themselves, adapt, and reconfigure as user and environment conditions require | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Self Simplifying** | symbiotic parasitic systems | 1125. use ecosystem models to make parts that work symbiotically on others or parasitically on others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | complementary system nets | 1126. spot the generic types of functions each subsystem does and generalize and make flexible the amounts and types of such behaviors each is capable of so subsystems can do complementary functions, each compensating for limitations or weaknesses of others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | hierarchy of systems | 1127. generalize functioning capabilities across size scales for all generic functions can components that can inform, monitor, and do them at all size scales across the design, not just one intended size scale | 0..1..2..3..4..5..6..7..8..9..10 |
| | | convolving: dimensionality shrinkage | 1128. allow systems of interacting subsystems to identify highly focussed repeated behavior sets needing only tiny subsets of configurations and parts possible, so the device self optimizes to automate doing such behaviors | 0..1..2..3..4..5..6..7..8..9..10 |
| **Inventioin Types** | **Needs-Seeds Combines** | see intrinsic use of new phenomenon | 1129. distinguish intrinsic core (usually abstract) functions possible of a new phenom from first seen functions as it intrudes into your habits and consciousness for the first time | 0..1..2..3..4..5..6..7..8..9..10 |
| | | see use for useless phenomenon | 1130. find all wastes and useless actions and results of all parts of a design and imagine uses for them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | see use for phenomenon with other use (exapt, bricolage) | 1131. find the overarching purpose and function in which a part is now imagined and used in a design and find other purposes, functions, designs in which it could be used (exaptedly as bricolage) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | match need without means to phenomenon | 1132. keep catalog of needs without current means that a new invention or approach might someday be able to satisfy and review all invented solutions against that list to see if any of them meet any of those needs; index all your inventions and solutions regularly | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Update Means/Ends** | device features replace users effort | 1133. invent devices or features of device parts that replace efforts or attention needed by users--do not let users choose or decide things that users do not need to choose or decide--more freedom is not always better for users | 0..1..2..3..4..5..6..7..8..9..10 |
| | | compress related functions into 1 device | 1134. take separate, diverse, but related functions now done by separate inventions, parts, or devices and get them done by one more generic design capable of being adjusted, tuned, or tweaked while in operation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | existing function means updated as means evolve | 1135. automate updating of how functions are done as new technical means get invented and come on market | 0..1..2..3..4..5..6..7..8..9..10 |
| | | exapt functions for new functions as means evolve | 1136. as new technical means come along, be sure to examine each of them, in contexts other than those contexts they present themselves in, to see if functions different than they purport to do, can be gotten from them by using them in unusual contexts | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Domain Trades Within/ Without** | optimize/reconfigure components for subset of functions | 1137. make sets of components capable of simplifying, speeding up, and automating their interactions when repeated use patterns reach certain thresholds | 0..1..2..3..4..5..6..7..8..9..10 |
| | | extremize trade-offs between components/subsystems for new uses | 1138. redesign configuration components so that when trade-offs among them become extreme (one or another use pattern dominates) redisual component interdependencies drop away, allowing one configuration subset to take over all functioning, reducing wear and quality variation caused by interacting with other components | 0..1..2..3..4..5..6..7..8..9..10 |
| | | other domain ways improve performance | 1139. consider function analogs in entiirely different domains or part analogs in other domains, to see if they suggest ways to improve performance (for example, Southwest Airlines is to shipping people as What is to shipping Federal Express or UPS packages?) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | turn unused effects/properties into functions | 1140. find properties of parts or subsystems or functions/side-effects of them that are unused and find uses for them (re-optimize the entire design and other subsystems to enable such effects and see if interesting usable performance results) | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Invention Types** | **Use System Effects** | other parts, past acts = environment of 1 part/act | 1141.  all other parts, all other functions-going-on-while-using, are the environment of any one part or function in a device--do such environments help or hinder, specialize or generalize behavior in wanted ways? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use, means, function, environment evolutions matching | 1142.  as uses evolve of a thing, as functions it supports or is composed of evolve, as the environments it fits or is used in evolve, as the environments all its other parts/functions are of any one of its parts/functions evolve--do these things interact positively or negatively as they evolve? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | component grammars evolved | 1143.  turn specialized components into smaller, cheaper, more general populations of components that get configured by a kind of "grammar" into sentences that do particular functions--many more functions than the initial more specialized complicated forms of them were capable of | 0..1..2..3..4..5..6..7..8..9..10 |
| | | higher order side-effects made main | 1144.  ferret out all side-effects produced by attaining any main effect and seek out ways to usefully use them or eliminate them entirely | 0..1..2..3..4..5..6..7..8..9..10 |
| **Simplify** | **Flex by Decompose** | decompose, modularize, mass fragmentation | 1145.  decompose unitary things, modularize hosts of varied things, change fragmentation scale from several things into masses or populations of things | 0..1..2..3..4..5..6..7..8..9..10 |
| | | replace fixed big with reconfigurable small; fixed with temporary | 1146.  replace fixed big things with reconfigurable collections of smaller things, replaced fixed things with temporarily fixed reconfigurable things | 0..1..2..3..4..5..6..7..8..9..10 |
| | | adjustable setting , flexible form, self organizing replaces complex design | 1147.  replace complexly design things with reconfigurable self adjusting self organizing simple collections of things | 0..1..2..3..4..5..6..7..8..9..10 |
| | | all parts diverse + optimal environment for other parts | 1148.  optimize all parts to make them as diverse from each other as possible, then optimize them again to make them an optimal environment for the intended functions of each other (Taguchi technique = optimize along linear functions of values not point performance values, so tunable to each other) | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Plurify** | recycle:  wastes to uses/products, dynamics to functions; use to self repair | 1149.  recycle wastes to get them used or sold as products; recycle dynamics or motions to get them to perform functions; recycle uses and wear to get them repair their own side-effects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | concentrate/disperse/alternate and mix/unmix for effects | 1150.  concentrate scattered things, disperse concentrated things, alternate continuously done things, mix distinct things, unmix blended things | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use frequency differences, do other functions in intervals, get use from down cycles | 1151.  use differences in frequency of occurence, use intervals between one function to do other functions, use down time or slack to do other functions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | replace sole object  with populations interacting | 1152.  replace one object doing a function with populations of simpler things interacting to do that function, while also interacting to do thousands of other functions | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Focus** | separate core/periphery function/waste function variety/means variety, force/direction/timing | 1153.  separate core and periphery in physical or abstract functional terms; separate function intended and waste functioning, separate function variety and means of doing function variety;  separate force from direction and timing of applying that force | 0..1..2..3..4..5..6..7..8..9..10 |
| | | replace counter/avoid; material/field; field/event; environment control/self control | 1154.  replace countering a force with avoiding it; replace material with a force field doing something; replace a field with an event doing something, replace environments imposing control with devices self controlling themselves | 0..1..2..3..4..5..6..7..8..9..10 |
| | | replace motion/position, objects/particles: in fields | 1155.  replace motions with positions in a field, replade objects with particle configurations in a field | 0..1..2..3..4..5..6..7..8..9..10 |
| | | platforms:  redirect/combine for functions if interact same material/parts | 1156.  replace parts optimized for particular functions with platforms having components that combine for functions | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Facsimiles** | use facsimile/model, trial, not actual | 1157.  do tests and trials on facsimiles or models not actual products if possible | 0..1..2..3..4..5..6..7..8..9..10 |
| | | focus model on core; optimize signal/noise ratio | 1158.  focus models on core functions and ideal energy flows; optimize not performance alone but ratio of performance against variations actually found in the environment-of-use of a device | 0..1..2..3..4..5..6..7..8..9..10 |
| | | more+removal, less+add repalces accuracy; temporary part to help produce/use | 1159.  removing some from more or adding onto less replaces accurate fixed performance in a design; replace permanent part with temporary part | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use/user designs models/products | 1160.  get users to design parts of products rather than trying to expensively get designers to master what is inside user heads:  designers invent devices enabling users to design themselves rather than designers invent devices to do what they "guess" users want | 0..1..2..3..4..5..6..7..8..9..10 |
| **Reconfigure** | **Counter** | pre-position counter forces/properties to production/use | 1161.  pre-position things for where and how they will be used rather than delaying use by positioning when they are needed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | turn use actions or parts into properties | 1162.  turn actions of using something or parts used into properties of use to end-users | 0..1..2..3..4..5..6..7..8..9..10 |
| | | insulate/optimize subsystems for unreliable subsystems/users/uses/ environments | 1163.  insulate or optimize subsystems so they enable other nearby subsystems to attain their needed performance values rather than hinder it (optimize performance around line values not point performance values so performances can be tuned to help other subsystems reach their goals) | 0..1..2..3..4..5..6..7..8..9..10 |
| | | optimize away free energy in designs | 1164.  optimize away free energy in a design rather than optimizing away what bothers customers/users (if you do not do this, you end up optimizing away the same free energy appearing in different places as you optimize it away from previous places-- chasing the free energy all over the design rather than getting rid of it altogether) | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Reconfigure** | **Reverse and Inverse** | invert acts: cool not heat to loosen; slow need not speed use | 1165. invert actions--cool to loosen rather than heat, slow need for something rather than speeding use of something | 0..1..2..3..4..5..6..7..8..9..10 |
| | | invert locales: move tool not part, user not product | 1166. invert what gets moved or used: move tool not the part, move user not the product | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fix motions and move ficities; put outsides inside and vice versa | 1167. fix motions and move fixed things; put outsides inside and put insides outside | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reorient: easy big move replaces hard accurate move | 1168. reorient: easy big move replaces hard small accurate moves | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Shells, Balls, Holes** | replace unnecessary linearity; surround replaces sequence | 1169. replace unnecessary linearity--replace sequences with surrounds | 0..1..2..3..4..5..6..7..8..9..10 |
| | | support/insulate/position with inflatables, buoyanc, lifts | 1170. support/insulate/position using inflatables, buoyance, lifts rather than fixed mechanics | 0..1..2..3..4..5..6..7..8..9..10 |
| | | add fractal holes, spaces, intervals + use them for other fucntions | 1171. add holes fractally on all size scales and use those spaces for other functions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reuse fallow functions for preparatory acts | 1172. reuse temporarily non-engaged functions for preparatory actions for other functions | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Symmetry** | create or increase asymmetry | 1173. create symmetry or increase use of it; create assymmetry or increase use of it | 0..1..2..3..4..5..6..7..8..9..10 |
| | | make asymmetric functions symmetric pairs for new functions | 1174. make asymmetric functions symmetric pairs for new functioning | 0..1..2..3..4..5..6..7..8..9..10 |
| | | take slight imbalances to extremes for new functions | 1175. take slight imbalances to extremes for new functions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | try uses for opposite functions | 1176. try to find uses for opposite functions | 0..1..2..3..4..5..6..7..8..9..10 |
| **Redirect** | **Fix Contradictions** | separate/join in space/time; simul/interval use of system+anti-sys | 1177. separate or join in space, separate of join in time, do things done now in intervals simultaneously instead; do things now done simultaneously in intervals instead; do system and do its opposite--find uses for anti-system, or the system with parameters in the least useful settings or least used settings | 0..1..2..3..4..5..6..7..8..9..10 |
| | | different levels use system/anti-sys; change scale higher/lower | 1178. use the system on one level and the anti-system on another; change scales the system operates at; change the scales the anti-system operates at | 0..1..2..3..4..5..6..7..8..9..10 |
| | | escape/meet via phase change; tunable phase; use dual phases | 1179. escape a function via phase changing; meet/attain a function via phase changing; make phase tunable by environment or by something inside the system; use dual phases in sequence, in paralle, alternating | 0..1..2..3..4..5..6..7..8..9..10 |
| | | turn use, waste, wear reaction into information | 1180. turn use, waste, or wear reactions into information | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Make/Break Links** | directional/bidirectional/ broadcast/narrowcast/ sampling | 1181. evolve directional use to bidirectional use to broadcasted use to narrowcasted use to sampling use | 0..1..2..3..4..5..6..7..8..9..10 |
| | | delay/select/modify; time/combine | 1182. delay, select, modify, combine, or time function uses | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use/affect/set node different potentials or states | 1183. use, affect, or set different potentials or states for a node in a network | 0..1..2..3..4..5..6..7..8..9..10 |
| | | +/-/dual feedbacks, reflexive: past actgs now environment | 1184. find the same use for both positive and negative feedback; find distinct uses for positive and negative feedback; use past actions as current environment, avoid letting past actions become current environment | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Exaptations** | use uses/users: use eats package, use repairs, use senses: color, smell, sounds | 1185. use users or device uses; example: use eats package, user eats package, using device repairs it; use senses: color, smell, sounds | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use intermediaries: expand function/blunt/redirect harm | 1186. use intermediaries: expand functions, blunt functions, redirect harms into other uses | 0..1..2..3..4..5..6..7..8..9..10 |
| | | induce/reduce/counter/ redirect/match feedback | 1187. exploit feedbacks beyond context that generates them: induce, reduce, counter, redirect, or match feedbacks | 0..1..2..3..4..5..6..7..8..9..10 |
| | | redirect/convert/reflex harmful forces | 1188. redirct harmful forces; convert harmful forces into something useful, reflect harmful forces to counter other harmful forces | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Motion** | smooth, periodic, resonant, pulsed, blast motions | 1189. smooth functioning, make functioning periodic, make functions resonate, pulse functioning, make functions blast, make motions blast | 0..1..2..3..4..5..6..7..8..9..10 |
| | | exapt user/use/environment motions | 1190. use the user, use particular use functions, use environment reactions as motions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use frequency, amplitude, direction, medium, inertia of motions | 1191. use properties of motions: use frequency, use amplitude, use direction, use medium, use inertia | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fuse in space/time: linke/move reactives; net interactions | 1192. fuse motions in space, fuse in time, link reactions, separate reactions, move readtions; link interactions, network interactions | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Change Scope or Scale** | **Recursions** | spatial: nested spaces | 1193.  create and use nested spaces | 0..1..2..3..4..5..6..7..8..9..10 |
| | | temporal: fractal sequences | 1194.  create and use nested procedures or apply procedures on fractally nested size scales or time scales | 0..1..2..3..4..5..6..7..8..9..10 |
| | | functional: fractal functions | 1195.  create or use fractal functioning:  the same functioning applied on different size scales | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use: use results of own use | 1196.  use results of own use | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Dimensions** | +/-move D; +/- moves per D | 1197.  use dimension positively, use dimension negatively, move the dimension itself; move within dimension | 0..1..2..3..4..5..6..7..8..9..10 |
| | | add 3D layers/uses | 1198.  expand dimensionality of use, action, information;  from one dimension to two, from two to three, from three to four via information or feedback in time | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use entire shape of objects, paths of motions; use interruptions/waits/ returns/moves | 1199.  use entire shape of objects and paths of motion;  use interruptions and waits;  use return and move motions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | bound motions into objects/functions | 1200.  bind motions to turn them into objects having functioning;  bound motions to turn them into objects having functioning | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Combinations** | replace:  solid/liq, liq/gas, gas/plasma; support/buoyancy, pressure/vacuum; solid/foam | 1201.  replace solid with liquid, liquid with gas, gas with plasma, plasma with solid, solid with gas, liquid with plams, etc. | 0..1..2..3..4..5..6..7..8..9..10 |
| | | disperse/concentrate; regidify/flex | 1202.  disperse concentrated things;  concentrate scattered things;  make rigid flexible things;  make flexible rigid things | 0..1..2..3..4..5..6..7..8..9..10 |
| | | heat/cool; move/fix; roughen/smooth | 1203.  combine heat with cool;  moving with fixing, roughen with smoothing etc. | 0..1..2..3..4..5..6..7..8..9..10 |
| | | digital/analog; computed/looked up | 1204.  combine digial with analog, computed with looked up, etc. | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Criticality** | detect critical points | 1205.  detect system critical points and system super-saturation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | detect emergent critical point patterns | 1206.  detect emergent patterns at system critical points | 0..1..2..3..4..5..6..7..8..9..10 |
| | | use critical point effect emergents, edge of chaos, avalanches | 1207.  use critical point effects and emergents to drive system to edge of chaos or to system wide avalanches at tipping points | 0..1..2..3..4..5..6..7..8..9..10 |
| | | be last straw, whistle point | 1208.  be the last straw, the whistle point, that tips the system toward entirely different trajectories in phase space | 0..1..2..3..4..5..6..7..8..9..10 |
| **SYSTEM EFFECTS, ONE:  Attention Distraction Effects** | | | | |
| **Time Blind** | **effect omission** | unplanned second order effects | 1209.  people plan and intend wanted outcomes not envisioning responses of myriad involved system elements/forces/persons | 0..1..2..3..4..5..6..7..8..9..10 |
| | | ownerless problems | 1210.  problems without obvious owner, beyond simple profession boundaries often too unfocused for any one group to handle | 0..1..2..3..4..5..6..7..8..9..10 |
| | | emergents from interactions | 1211.  totally unplanned outcomes often emerge from the myriad parts of systems interacting as a result of 1 or several moves/initiatives | 0..1..2..3..4..5..6..7..8..9..10 |
| | | partial solution lowers standards | 1212.  partial successes often change people's ambitions or criteria of success lower, so accept transient solution that go away | 0..1..2..3..4..5..6..7..8..9..10 |
| | **counter effect** | side-effects counteract main one | 1213.  many side-effects directly counter the main intended effect, undoing it, or distracting from it via huge costs worse than want | 0..1..2..3..4..5..6..7..8..9..10 |
| | | act combines counter intent | 1214.  the actions done to reach a goal though individually toward goal combine to counter the goal | 0..1..2..3..4..5..6..7..8..9..10 |
| | | staff combines counter intent | 1215.  the people working to reach goal though individually helping reach it combine to prevent it happening | 0..1..2..3..4..5..6..7..8..9..10 |
| | | launch manner counters intent | 1216.  the manner a solution is launched with counters overall intent | 0..1..2..3..4..5..6..7..8..9..10 |
| | **result surprise** | self-reinforcing growth self limits | 1217.  an act can have result that cause more such results continually till negative feedback self limit process grows big and reverses | 0..1..2..3..4..5..6..7..8..9..10 |
| | | moderate solution bad so miss good larger one | 1218.  when initial small solution tries fail badly, people give up and miss fact that much larger such tries would work well | 0..1..2..3..4..5..6..7..8..9..10 |
| | | side-effects of result worse than benefits of result | 1219.  the side-effects may be much worse than the benefits of getting the intended main effects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | result done is not satisfying/wanted | 1220.  some intended results when actually attained and experienced do not satisfy | 0..1..2..3..4..5..6..7..8..9..10 |
| | **time surprise** | similar input very different outputs | 1221.  similar inputs, even extremely similar ones, can produce extremely different output types in any non-linear system | 0..1..2..3..4..5..6..7..8..9..10 |
| | | usual input whole system changes | 1222.  an input just like usual ones done many times already can yet produce entirely different never seen before results | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fast good results then huge bad ones | 1223.  early or easy initial results can be good lulling people till huge bad ones suddenly emerge from unseen negative feedback force | 0..1..2..3..4..5..6..7..8..9..10 |
| | | solution with delayed huge cost | 1224.  good solutions can work well in many respects till people notice huge negative costs that are delayed often considerably | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Space Blind** | **cause allocation** | cause at problem locale only is attacked | 1225. people can completely handle causes acting near where problem appears and thereby miss many other bigger causes acting in far flung other parts of the system | 0..1..2..3..4..5..6..7..8..9..10 |
| | | cause of other causes not attacked | 1226. many causes can be handled well but since what causes them is left untouched problem reappears continually, especially when one cause after another is handled | 0..1..2..3..4..5..6..7..8..9..10 |
| | | system caused variation "solved" w/o system changes | 1227. when design or configuration of the system causes some problem, solutions that miss it will allow the problem to reappear | 0..1..2..3..4..5..6..7..8..9..10 |
| | | big environment caused failure blamed on weak/1 component | 1228. environment or whole system design caused failure gets blamed on one component or weak one, letting problem reappear | 0..1..2..3..4..5..6..7..8..9..10 |
| | **environment allocation** | other part as envt undoes 1 part fn | 1229. functions of one system part can be undone or blocked or made harmful by functions of other parts acting as environment of it | 0..1..2..3..4..5..6..7..8..9..10 |
| | | lack of leeway in other parts stifles 1 part's function | 1230. each part doing its own function very well can cause overall failure because they do not have leeway helping each other do their individual functions well | 0..1..2..3..4..5..6..7..8..9..10 |
| | | environment changes during solving | 1231. the solving process can take enough time that the environment around it changes so as to undo its effects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | solution so particular to 1 environment cannot be used | 1232. a solution can be so particular to 1 environment that it cannot be used or its effects are transient as the environment evolves | 0..1..2..3..4..5..6..7..8..9..10 |
| | **support allocation** | credit & rewards not to those who solved | 1233. systems can reward people who did not actually solve so in the future they do not solve things | 0..1..2..3..4..5..6..7..8..9..10 |
| | | outside help used till own capability atrophies | 1234. outside help can assist you so long and well that your ability to live without it atrophies causing disaster when it is no longer available | 0..1..2..3..4..5..6..7..8..9..10 |
| | | great solution for situation too weak to last | 1235. great solutions can be too weak to last and keep problems at bay | 0..1..2..3..4..5..6..7..8..9..10 |
| | | great solution gets enemies cuz of who supports it | 1236. great solution can assemble and motivate scattered ones who dislike it or who does it or fame from the doing of it | 0..1..2..3..4..5..6..7..8..9..10 |
| | **order allocation** | enough chaos: local act effect goes unnoticed | 1237. enough chaos can prevail that good effects go unnoticed and unappreciated | 0..1..2..3..4..5..6..7..8..9..10 |
| | | enough order: local act cannot affect system | 1238. tight interconnections in a system can make for such stasis that nothing can change enough to constitute solution of problems | 0..1..2..3..4..5..6..7..8..9..10 |
| | | sequence of solving exacerbate user dissatisfactn | 1239. the particular sequence of acts in a solution process can create user dissatisfaction that overwhelms their overall result | 0..1..2..3..4..5..6..7..8..9..10 |
| | | solution delivery configuration harms | 1240. how a solution is delivered can undo any of its benefits | 0..1..2..3..4..5..6..7..8..9..10 |
| **Reaction Blind** | **others' response** | overfishing | 1241. people getting less than needed can try harder, getting even less, so trying harder till no common resource is left | 0..1..2..3..4..5..6..7..8..9..10 |
| | | rich get richer | 1242. those with slight initial resource advantages can be so favored with results that their advantages grow hugely | 0..1..2..3..4..5..6..7..8..9..10 |
| | | price war | 1243. several parties can undermine their competitors' prices, till everyone together goes broke | 0..1..2..3..4..5..6..7..8..9..10 |
| | | envy isolate | 1244. successes can produce such envy caused isolation that benefits are unusable | 0..1..2..3..4..5..6..7..8..9..10 |
| | **customer response** | when get what want, dislike it | 1245. people can find negatives of losing goal to achieve outweigh attaining concrete goals | 0..1..2..3..4..5..6..7..8..9..10 |
| | | when live with result, hate it | 1246. people can find that experienced result dissatisfies them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | solving process raises expectations so hate result | 1247. solving process can raise expectations to than any likely result dissatisfies | 0..1..2..3..4..5..6..7..8..9..10 |
| | | representative of customer's spec are wrong | 1248. how we represent what the customer requires can distort or miss actual customer requirements or miss customer changes | 0..1..2..3..4..5..6..7..8..9..10 |
| | **response to production** | producers become/supplant customers | 1249. the requirements of producers can supplant needs of customers in projects so customer hate the result | 0..1..2..3..4..5..6..7..8..9..10 |
| | | during production parts/requirements change | 1250. while producing something enough time elapses that components or overall requirements change | 0..1..2..3..4..5..6..7..8..9..10 |
| | | parts hijacked during production | 1251. parts during a project get noticed by others and taken for other purposes | 0..1..2..3..4..5..6..7..8..9..10 |
| | | way something produced kills interest | 1252. the way something is done can undermine the purpose behind it | 0..1..2..3..4..5..6..7..8..9..10 |
| | **response to professionals** | factors from unincluded profession, kill | 1253. professions omitted from an effort usually have been omitted because they have vital but unpopular knowledge needed by it | 0..1..2..3..4..5..6..7..8..9..10 |
| | | profession not customers make requirements | 1254. producers of a project or designers of it may supplant requirements of customer of it with their own requirements | 0..1..2..3..4..5..6..7..8..9..10 |
| | | inter-profession disagreement on basics | 1255. the plural diverse professions required by a project may be unable to agree on even the most basic aspects of it | 0..1..2..3..4..5..6..7..8..9..10 |
| | | solution more complex than problem | 1256. solutions may dwarf in complexity the problems they are to solve | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Scale Blind** | **attitudes** | fatalist and hermit | 1257.  the world cannot be trusted, withdraw and minimize harm--this attitude makes the world horrid so withdrawal is needed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | egalitarian | 1258.  the world is dangerous and untrustable, we have only each other, so stick together above all--this drives merit away | 0..1..2..3..4..5..6..7..8..9..10 |
| | | individualist | 1259.  small errors and big errors have mild consequences, the world is trustable so anything goes--this eventually produce disasters | 0..1..2..3..4..5..6..7..8..9..10 |
| | | hierarchist | 1260.  parts of the world are very dangerous, parts okay, must know boundaries--this eventually produces dated distinctions | 0..1..2..3..4..5..6..7..8..9..10 |
| | **scales** | components too big | 1261.  the scale of problem/causal elements differs from the scale of solution elements | 0..1..2..3..4..5..6..7..8..9..10 |
| | | components too small | 1262.  the scale of problem/causal elements differs from the scale of solution elements | 0..1..2..3..4..5..6..7..8..9..10 |
| | | overkill solutions or cut vital stuff as waste | 1263.  the scale of problem/causal elements differs from the scale of solution elements | 0..1..2..3..4..5..6..7..8..9..10 |
| | | overly incremental solutions | 1264.  solution too incremental may allow drastic changes of situation during long implementation periods | 0..1..2..3..4..5..6..7..8..9..10 |
| | **flexibility** | solution perfect for present situation only | 1265.  solutions may be so specialized around current situation that slight changes of environment vitiate them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | parts config lost in responding so problems reappear | 1266.  inter-relations needed among solution components may be lost during the chaos of implementation so problems reappear | 0..1..2..3..4..5..6..7..8..9..10 |
| | | new parts added rather than reconfigure old ones | 1267.  situations tend to get solved by adding things rather than replacing present things so complexity builds and dissipates efforts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | culture of designers narrower than culture of customers | 1268.  the culture of designers/solvers may be so much narrower than that of customers of a system that requirements of customers get missed or distorted terribly making outcomes unfit | 0..1..2..3..4..5..6..7..8..9..10 |
| | **diversity** | social ranks block feedback flows | 1269.  social status and merit rankings can be boundaries across which feedbacks do not flow so leaders miss results of their own acts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | firms or department functions block feedback flows | 1270.  functional departments of sets of firms may block the flow of feedback so leaders miss results of their own acts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | single solver pushed to heroics because alone | 1271.  solvers acting alone may be driven to extreme heroic level efforts that, lacking subtlety and patience, ruin solutions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | committee forced unneeded diversity | 1272.  committees doing solutions may force forms of diversity on a project that disintegrate it and make it unwieldy | 0..1..2..3..4..5..6..7..8..9..10 |
| **SYSTEM EFFECTS, TWO:  Ineffective Organization System Handling** | | | | |
| **Undependability** | **attempt home runs** | long cycle times allow time for many errors | 1273.  long cycle times for doing things allow time for many errors to accumulate | 0..1..2..3..4..5..6..7..8..9..10 |
| | | giant greenfield initiatives that don't build on past | 1274.  totally new goals and means in a project fail to link to already built up and tested capabilities, making achievements unstable | 0..1..2..3..4..5..6..7..8..9..10 |
| | | career system rewards distinguishing self from others not building on their work | 1275.  career systems can end up rewarding flashy launches of new initiatives not patient solid doing of hard long things, so rewards can reduce building on work of others or cooperating | 0..1..2..3..4..5..6..7..8..9..10 |
| | | aggressive specs that ignore real capabilities | 1276.  leaders can force extreme specs utterly unconnected with actual people and process capabilities | 0..1..2..3..4..5..6..7..8..9..10 |
| | **unknown requirement** | long cycle times allow many outside market changes | 1277.  long cycle times in a project give time for outside environment, customer, and market changes to undermine what is done | 0..1..2..3..4..5..6..7..8..9..10 |
| | | many changes of requirements | 1278.  requirements that specify what a project does can continually change during doing of the project making designs chaotic | 0..1..2..3..4..5..6..7..8..9..10 |
| | | marketers "know" customers but don't and don't see engineers as their customers | 1279.  marketers can substitute own bias for what customers really want and can impose not effectively communicate requirements to engineers | 0..1..2..3..4..5..6..7..8..9..10 |
| | | one-product projects when all know competition will instantly respond | 1280.  major one outcome efforts can demoralize entire workforces who know competitors will instantly respond to any one innovation actually done | 0..1..2..3..4..5..6..7..8..9..10 |
| | **unknown capabilities** | long cycle times allow many changes of personnel | 1281.  long cycle times for a project allow time for key staff to change, retire, or lose interest reducing skill and quality | 0..1..2..3..4..5..6..7..8..9..10 |
| | | one old generation manages so younger imaginations shut out except crises | 1282.  stable fixed old leadership generations controlling all shut out, always without exception, younger imaginations or force re-interpretation mistakes onto projects till failure results | 0..1..2..3..4..5..6..7..8..9..10 |
| | | unfunded capability development so must invent product and technology together | 1283.  product development gets funded but not development of reliable new technology such products use so projects jointly develop both, making performance achieved unreliable | 0..1..2..3..4..5..6..7..8..9..10 |
| | | early phases understaffed /funded; unrealistic schedules from remote leaders | 1284.  old projects always late so early phases of new projects are understaffed, causing errors to be spotted/fixed expensively later in projects; remote leaders force unrealistic schedules | 0..1..2..3..4..5..6..7..8..9..10 |

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| **Undependability** | **tradition of quitting** | products/projects often cancelled | 1285. tradition of leaders suddenly cancelling projects cause entire workforces to underinvest in projects till nearly completed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | no manager action till problems are huge | 1286. hierarchies can cause local problems to get unresolved locally, instead escalating to VP level, delaying solutions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | resources adequate only at product end | 1287. managers can fear early resource flows, hold back resources, so errors build up expensively treated at project end | 0..1..2..3..4..5..6..7..8..9..10 |
| | | subsystem team arguments escalate cuz refuse trade-offs | 1288. subsystem teams may refuse trade-offs among each other, hence, escalate arguments to VP level, delaying solutions | 0..1..2..3..4..5..6..7..8..9..10 |
| **Separation** | **missing coordination** | team members not co-located; global suppliers jerked around without context | 1289. teams split geographically can result in "in" groups jerking other around suddenly without context, warning, or consideration of local conditions and capabilities | 0..1..2..3..4..5..6..7..8..9..10 |
| | | unprincipled manage-ment causes waits for many sign offs | 1290. hierarchies can impose levels of permissions which only serve to delay key actions through projects dangerously | 0..1..2..3..4..5..6..7..8..9..10 |
| | | travel, waiting, reporting are most of development work time | 1291. the logistics of communicating and documenting a project can become half or more of all work, supplanting real design | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reviews distort actual capabilities | 1292. leader reviews can be unprofessional due to remote leaders or delusional due to leader political distortions of reality | 0..1..2..3..4..5..6..7..8..9..10 |
| | **faked solutions** | no incentives for needed behaviors: building reliable technology | 1293. all the incentives in a project can favor errorlessly and quickly doing things impossible to due errorlessly and quickly without development of technique/technology base that is unfunded | 0..1..2..3..4..5..6..7..8..9..10 |
| | | leaders remote and ignorant, do not like nuts and bolts solving | 1294. Western leaders want social class superiority to workers hence do not get hands dirty, lose sense of real capability, become totally dependent on politics distorted reports | 0..1..2..3..4..5..6..7..8..9..10 |
| | | waiting till problems huge then killing entire project preferred as it spreads blame | 1295. leaders prefer to let problems grow so huge that they kill entire projects as that spreads blame beyond one leader; smaller problems can be blamed on one leader so dangerous | 0..1..2..3..4..5..6..7..8..9..10 |
| | | no personal, social, knowledge basis for inter-manager agree-ment, so solution is political | 1296. managers so competitive that no rational negotiated solitons are possible among them, instead only political agreements are possible making technically irrational solutions | 0..1..2..3..4..5..6..7..8..9..10 |
| | **faked relationships** | managers lack the social skills to guide without punitiveness | 1297. managers may lack the social skills to work with or encourage own employees, instead, such managers are hated whenever they are around others, acting punitively among them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | managers force symptom only solving by tacit intimidation | 1298. managers unwilling to imagine or solve deep issues or political ones, may force solving of only superficial aspects by intimidating people | 0..1..2..3..4..5..6..7..8..9..10 |
| | | promotions not based on actual problems faced and solved | 1299. leaders may be recognized and promoted based on things other than actual problems faced and solved so incompetent contexts in higher leaders judge/distort lower competent ones | 0..1..2..3..4..5..6..7..8..9..10 |
| | | no consensus building process on product strategies | 1300. overall product strategies of a group may be contested and not agreed on so individual projects do not add up or synergize | 0..1..2..3..4..5..6..7..8..9..10 |
| | **learning-lessness** | no building on success/failure of previous teams | 1301. leaders to show own worth may deny worth and value built up by predecessor managers, ignoring previous team learnings | 0..1..2..3..4..5..6..7..8..9..10 |
| | | missing project postmortems | 1302. leaders may ignore reviews of completed projects to find learnings as they do not intend to apply past learning in future | 0..1..2..3..4..5..6..7..8..9..10 |
| | | tradition of hiding slack time and no one covering for others on team; no pain sharing system | 1303. project aspects that cause one role to work harder than others not recognized and equalized so people hide slack and other private benefits that compensate them for unfair work loads | 0..1..2..3..4..5..6..7..8..9..10 |
| | | creativity valued over effectiveness | 1304. creative solutions that bring visibility may be preferred to humdrum but cheap reliable ones that work better | 0..1..2..3..4..5..6..7..8..9..10 |

R. T. Greene,  A Creativity Checklist

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|---|---|---|---|---|
| **Person as Bureaucrat** | **consultation solving** | consulting = participating | 1305.  leaders can consult genba for genba's reactions then ignore them and consider that a participatory system | 0..1..2..3..4..5..6..7..8..9..10 |
| | | roles assigned by precedent not need | 1306.  leaders can structure all present projects just as past ones were ignoring unique needs and opportunities of the present | 0..1..2..3..4..5..6..7..8..9..10 |
| | | social will not mind used to solve | 1307.  getting everyone to fail together is worth as much as getting everyone to succeed--togetherness considered solution | 0..1..2..3..4..5..6..7..8..9..10 |
| | | rotating everyone before an issue | 1308.  rotating all leaders before an issue is considered adequate even if not consensus or insight occurs and leaders sleep | 0..1..2..3..4..5..6..7..8..9..10 |
| | **social solving** | ignore = solve | 1309.  ignoring a problem for generations is as good as solving it, the Charlie Brown strategy, ignore it till it goes away | 0..1..2..3..4..5..6..7..8..9..10 |
| | | admit issue = create issue | 1310.  admitting you have a problem is the same as creating the problem--this attitude | 0..1..2..3..4..5..6..7..8..9..10 |
| | | agreement all interpret different is agreement | 1311.  consensing on a vaguely worded agreement that everyone interprets completely differently considered agreement | 0..1..2..3..4..5..6..7..8..9..10 |
| | | agreement fact outweighs content | 1312.  social fact of agreement being announced more important than whether anyone really agrees with anyone else | 0..1..2..3..4..5..6..7..8..9..10 |
| | **hiding in uniformity** | intolerance of slight differences | 1313.  slight differences of one group to another, one project to another, hated and resisted, forcing all into same mold | 0..1..2..3..4..5..6..7..8..9..10 |
| | | information hiding | 1314.  hiding information and problems is as good as actual solving--this attitude | 0..1..2..3..4..5..6..7..8..9..10 |
| | | if new, not an issue, only old issues are issues | 1315.  new issues are not really issues, only issues that have been seen before are treated as issues | 0..1..2..3..4..5..6..7..8..9..10 |
| | | copying rivals outweighs inventing solutions | 1316.  copying competitor moves is considered more important than inventing own solutions | 0..1..2..3..4..5..6..7..8..9..10 |
| | **issue irrelevance** | issues are just distraction from real work | 1317.  issues are considered distractions of real work of doing past routines without thinking | 0..1..2..3..4..5..6..7..8..9..10 |
| | | good managing = issuelessness | 1318.  good leading is considered leading that avoids any issues and deals with no issues | 0..1..2..3..4..5..6..7..8..9..10 |
| | | changes in environment interpreted as already found inside group | 1319.  environment changes are all assimilated to inside of group already known phenomenon--so nothing is ever really new, that is, nothing requires new thought or effort | 0..1..2..3..4..5..6..7..8..9..10 |
| | | considering whether to do so thorough it = doing | 1320.  consideration processes are so thorough and long and detailed that they are more complicated than actually doing what is considered | 0..1..2..3..4..5..6..7..8..9..10 |
| **Mindlessness** | **issue buying** | issue generators neutralized coopted early | 1321.  any social unit that might generate issues is coopted by payouts early, that is, paid to not generate issues | 0..1..2..3..4..5..6..7..8..9..10 |
| | | attitude discrepancies responded to as issues | 1322.  differences of attitude are considered issues so opponent positions are constantly folded into own position, remove ing debate | 0..1..2..3..4..5..6..7..8..9..10 |
| | | long standing irrational situation is natural = not issue | 1323.  long standing unfair or irrational situations are, because long around, considered non-issue, and never improved | 0..1..2..3..4..5..6..7..8..9..10 |
| | | pay money to all parties = solving | 1324.  instead of hard choosing and thought, just pay all parties money to make issues go away | 0..1..2..3..4..5..6..7..8..9..10 |
| | **appearance is reality** | ritual process repetition is work, not issue handling | 1325.  following social rituals of consideration considered how to handle issues even if solutions not invented or tried | 0..1..2..3..4..5..6..7..8..9..10 |
| | | cost of issues is lost focus on unity of group | 1326.  issues considered harmful because they distract people from the mystic unity of the group and society | 0..1..2..3..4..5..6..7..8..9..10 |
| | | social surface: establish-ing a thing called a solution = solving | 1327.  getting everyone to call something, anything, a solution is considered a way to solve issues, regardless of whether it really works or changes arrangements in society | 0..1..2..3..4..5..6..7..8..9..10 |
| | | super direct solutions, bypassing causes | 1328.  getting people to like bad situations is considered good solution, better than removing bad situations | 0..1..2..3..4..5..6..7..8..9..10 |
| | **faked interactions** | easy meeting tradition: discuss = repeat elder opinions | 1329.  meetings that just ritually endorse opinions of whoever is oldest in the meeting, after consulting/ignoring everyone | 0..1..2..3..4..5..6..7..8..9..10 |
| | | group wrongs better than interrupting unity with issue | 1330.  wrongs perpetuated by a community are better than disrupting community by eliminating such wrong at cost of lost unity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | trance-like "no mind" state is ideal consciousness | 1331.  clear minds, without issues, is a goal of governing | 0..1..2..3..4..5..6..7..8..9..10 |
| | | mastery & automation of routines = ideal action | 1332.  action is ideally the mastery and automatic repetition of old established routines, not the hectic scurrying to solve issues | 0..1..2..3..4..5..6..7..8..9..10 |
| | **peaceful literalness** | perfecting everyday life = greatness | 1333.  inventing and living a perfected polished smooth everyday life personally is what society issue handling is for | 0..1..2..3..4..5..6..7..8..9..10 |
| | | issue preventing = garbage collecting | 1334.  preventing issues is the same as garbage collecting in importance | 0..1..2..3..4..5..6..7..8..9..10 |
| | | slight disturbance of "no mind" daily life state intensely investigated | 1335.  anytime and anywhere people get interested in issues is a real problem for society and must be stopped | 0..1..2..3..4..5..6..7..8..9..10 |
| | | utter meticulousness of handling trivialities | 1336.  tremendous detail and administrative power applied to trivial disturbances of clear mind No Mind consciousness | 0..1..2..3..4..5..6..7..8..9..10 |

| SYSTEM EFFECTS, THREE: Policy Self Contradiction | | | | |
|---|---|---|---|---|
| **System Basics** | **systemness** | power from position | 1337. instead of groups and individual actors by action making power, most comes from their position in systems | 0..1..2..3..4..5..6..7..8..9..10 |
| | | behavior from location | 1338. instead of groups and individual actors by action making their behavior, most comes from their position in systems | 0..1..2..3..4..5..6..7..8..9..10 |
| | | parts-whole differences | 1339. wholes have traits not found in any of their parts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | self conscious evolving system | 1340. systems whose parts think (consciously react) and evolve nearly never do just what is planned or intended | 0..1..2..3..4..5..6..7..8..9..10 |
| | **creativity of systemness** | complexity from simplicity | 1341. from simple local actors interacting by simple local rules, global complexity can emerge | 0..1..2..3..4..5..6..7..8..9..10 |
| | | dangerous safety measures | 1342. safety measures increase unsafe driving habits causing more injury not more safety | 0..1..2..3..4..5..6..7..8..9..10 |
| | | cannot do only 1 thing | 1343. humans acting in social systems can never do only 1 thing or only what is intended | 0..1..2..3..4..5..6..7..8..9..10 |
| | | systems change element traits | 1344. the system has traits different from traits of its parts, which system traits change context of parts traits = meaning changes | 0..1..2..3..4..5..6..7..8..9..10 |
| | **relativity from connectedness** | tight linkage = fault widening | 1345. more tightly linked systems are efficient but subject to widespread failure when small faults appear | 0..1..2..3..4..5..6..7..8..9..10 |
| | | basic units resist change | 1346. many interdependencies mean basic units resist all changes because relations to other units would also have to change | 0..1..2..3..4..5..6..7..8..9..10 |
| | | non-consensus based existence | 1347. some system elements exist only because other elements must consense to eliminate them, consensus is hard | 0..1..2..3..4..5..6..7..8..9..10 |
| | | relations determined relations | 1348. relations between some actors determined by relations between other actors, not between each other | 0..1..2..3..4..5..6..7..8..9..10 |
| | **systemness effects** | cats cause flowers indirectness | 1349. extreme indirectness of effects--cats eat mice which therefore cannot eat seeds, causing 1 flower type to dominate/appear | 0..1..2..3..4..5..6..7..8..9..10 |
| | | delayed effects time fractality | 1350. hard to declare any policy/intervention a success because time period of side-effects is fractal, multiple size scale | 0..1..2..3..4..5..6..7..8..9..10 |
| | | second best become disaster | 1351. second best conditions do not produce second best outcome in non-linear systems, but often disasters | 0..1..2..3..4..5..6..7..8..9..10 |
| | | theoretical best = actual worst | 1352. best in theory can be terrible in practice | 0..1..2..3..4..5..6..7..8..9..10 |
| **Unobvious Causation** | **perceptions as acts** | context locality make meaning | 1353. context (system parts near) of actor different than act viewers so intended meaning not seen meaning | 0..1..2..3..4..5..6..7..8..9..10 |
| | | action consistency message | 1354. our response to this instance seen as info about our response to future similar instances by others in system | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reacting to reactions | 1355. others' reaction to our actions change our preferences, acts, and self image, and reactions to their actions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | waves of fashion | 1356. parallel micro-environments and deployed changes taken up by parallel micro-environments | 0..1..2..3..4..5..6..7..8..9..10 |
| | **non-additivity of effects** | similar inputs different outputs | 1357. similar inputs can have vastly different outputs | 0..1..2..3..4..5..6..7..8..9..10 |
| | | diminish returns critical mass | 1358. output decline after certain level of inputs; output appears after certain level of inputs | 0..1..2..3..4..5..6..7..8..9..10 |
| | | effect from other effects | 1359. an effect's existence depends on presence of certain other effects/ variables | 0..1..2..3..4..5..6..7..8..9..10 |
| | | input increase reverses effect | 1360. ex: incentive to act morally reduces moral action; increase in input increases output for a while then suddenly decreases it | 0..1..2..3..4..5..6..7..8..9..10 |
| | **path dependence** | variable order change outcome | 1361. order in which variables act changes outcome produced; ex: baby before not after marriage | 0..1..2..3..4..5..6..7..8..9..10 |
| | | action timing | 1362. when in process plea or proposal happens determines what outcome they produce or tend towards | 0..1..2..3..4..5..6..7..8..9..10 |
| | | transient factor effects endure | 1363. effects of a factor that ceases to exist can yet endure far beyond lifespan of factor that created them; ex: found firm | 0..1..2..3..4..5..6..7..8..9..10 |
| | | hysteresis: path dependence | 1364. outcome may vary on how variables attained key values; ex: water flow from open vs. closed faucet | 0..1..2..3..4..5..6..7..8..9..10 |
| | **the blame illusion** | failing variable may yet be OK | 1365. a variable change may fail to produce an outcome not because it is wrong variable but cuz other variables needed also | 0..1..2..3..4..5..6..7..8..9..10 |
| | | gradual vs. leap to big input | 1366. gradual steps to some input value may not produce same output as single leap to same input value | 0..1..2..3..4..5..6..7..8..9..10 |
| | | blame fails | 1367. effect of one variable depends on others so blaming one variable nearly always wrong | 0..1..2..3..4..5..6..7..8..9..10 |
| | | bad people illusion | 1368. people bad in one team can be great in another; worth is relative to environment challenge of other personalities interacting | 0..1..2..3..4..5..6..7..8..9..10 |

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|---|---|---|---|---|
| **Environmental Acting** | **futility of plan & design** | plural OKs = disaster | 1369.  several slight, individually negligible, faults together can cause disastrous outcome | 0..1..2..3..4..5..6..7..8..9..10 |
| | | futile to improve 1 part | 1370.  even giant improvements in one factor can have no effect or bad effect on wanted outcome | 0..1..2..3..4..5..6..7..8..9..10 |
| | | false polarities | 1371.  nature versus nurture type arguments are false because they each are environment for each other; they are a system | 0..1..2..3..4..5..6..7..8..9..10 |
| | | evolved over designed traits | 1372.  evolved traits tend to be far superior to designed traits because invented relative to actual environments encountered | 0..1..2..3..4..5..6..7..8..9..10 |
| | **results as environments of later actions** | small steps create crisis | 1373.  inadequate first measures can exacerbate a situation while drawing attention making it look worse,so crisis expands involvement | 0..1..2..3..4..5..6..7..8..9..10 |
| | | bad people illusion | 1374.  people bad in one team can be great in another; worth is relative to environment challenge of other personalities interacting | 0..1..2..3..4..5..6..7..8..9..10 |
| | | "right" tactic illusion | 1375.  European softness proved "better" than US hardness, BUT because US hardness was context, established by deeds | 0..1..2..3..4..5..6..7..8..9..10 |
| | | enemy focus error | 1376.  view 1 enemy policy, miss actual & possible others and relations among actual and possble others as the "1's" meaning | 0..1..2..3..4..5..6..7..8..9..10 |
| | **strategy ecosystem** | effectiveness erosion | 1377.  professionals surprised when what works for years gradually fails BUT audience changed;ex:rank colleges but fit= worth | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reaction to others' expectations | 1378.  actors react to what other actors expect; ex: A thinks X hard so Y tries it and wins cuz of A's expectations | 0..1..2..3..4..5..6..7..8..9..10 |
| | | blinded by seeing | 1379.  my clarity on my motives causes me to miss that B mistakes what my motives are, so I misinterpret wat B's motives are | 0..1..2..3..4..5..6..7..8..9..10 |
| | | blind to origins of own strategy | 1380.  I use strategy X with present opponent W because my previous opponent used strategy Y, but W is not Y | 0..1..2..3..4..5..6..7..8..9..10 |
| | **act to create environment** | phony proposing | 1381.  many proposals, threats, actions are done because we know or expect other will ignore or stop them, so not genuinely meant | 0..1..2..3..4..5..6..7..8..9..10 |
| | | actuals vs images tactics | 1382.  tactics that weaken me actually can make me stronger cuz of effects of image I create; arm spending excess = strong image | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reacting to environment I create | 1383.  result of my actions become environment determining further actions I take and results I aim for/achieve; over-react movts | 0..1..2..3..4..5..6..7..8..9..10 |
| | | interaction as environment | 1384.  interaction can change aims, beliefs, capabilities of actors; conflict can harden, extremize, mobilize enemies | 0..1..2..3..4..5..6..7..8..9..10 |
| **System Caused Helplessness** | **trapped by environment own actions create** | want what denied | 1385.  interactions become experiences that change our aims, so we want what is denied us more than before denial came | 0..1..2..3..4..5..6..7..8..9..10 |
| | | greener grass on other side illusn | 1386.  we imagine our self with different situation, partner but it is not same self relating thusly to different things, =not better | 0..1..2..3..4..5..6..7..8..9..10 |
| | | repetition is not repetition | 1387.  repeated inputs can produce very different outputs cuz 1st results form new environment of action;Hitler Czeck/Poland | 0..1..2..3..4..5..6..7..8..9..10 |
| | | blame environment I created | 1388.  ex: he hates me so I do it, but I provoked him to hate me, then use result to justify my initial provoking | 0..1..2..3..4..5..6..7..8..9..10 |
| | **control illusion** | self fulfilling prophesy | 1389.  I fear X, defensive build up that provokes X to fear me, justifying my initial fear | 0..1..2..3..4..5..6..7..8..9..10 |
| | | fatal solutions | 1390.  plans and designs not = results; ex: oil spill clean up increases overall pollution | 0..1..2..3..4..5..6..7..8..9..10 |
| | | control is less powerful | 1391.  total control to do incenting acts less powerful that likelihood of error, that uncertainty forces cooperation | 0..1..2..3..4..5..6..7..8..9..10 |
| | | counter effects | 1392.  Titanic-safety = careless = danger, ban X = X popular = more X, | 0..1..2..3..4..5..6..7..8..9..10 |
| | **intent not result; incentive not result** | user not giver context | 1393.  aid or acts given used entirely differently than planned if use context differs from what givers assumed: | 0..1..2..3..4..5..6..7..8..9..10 |
| | | incentive gaming | 1394.  following incentive leads to bad behaviors: increasing measures supplants service impact: | 0..1..2..3..4..5..6..7..8..9..10 |
| | | target population evolves | 1395.  target population of incentives change when incentives seen; ex: aid draws self supporters into dependency as easier way 3 | 0..1..2..3..4..5..6..7..8..9..10 |
| | | designed outcomes = inputs | 1396.  mandated, directly imposed, outcomes are inputs guaranteeing unforeseen bad outcomes later:WWI's peace causesWW2 | 0..1..2..3..4..5..6..7..8..9..10 |
| | **systems as limits to knowledge** | with X without X illusion | 1397.  functional substitutes for X abound so without X cases may have X by other means not seen | 0..1..2..3..4..5..6..7..8..9..10 |
| | | do A vs. B in case illusion | 1398.  cannot find identical real cases so difference in results of A vs B from context or evolution differences not seen | 0..1..2..3..4..5..6..7..8..9..10 |
| | | power relativity | 1399.  real & imagined alternatives by us and opponents/peers determine power/fear so generally cannot determine | 0..1..2..3..4..5..6..7..8..9..10 |
| | | motive of act indeterminate | 1400.  X challenges Y because knows Y is strong or because does not know Y is strong--cannot tell generally | 0..1..2..3..4..5..6..7..8..9..10 |

| SYSTEM EFFECTS, FOUR:  Tools for Handling System Effects Well | | | | |
|---|---|---|---|---|
| **Feedback Caused Ignorance** | **system narcissism's illusions** | success illusion | 1401.  getting wanted result shifts attention elsewhere, others see so result eroded:speed fees cut speedg&police=more speedg | 0..1..2..3..4..5..6..7..8..9..10 |
| | | last method worked illusion | 1402.  last in series of negotiations worked so method there is good but only worked cuz context set by earlier methods | 0..1..2..3..4..5..6..7..8..9..10 |
| | | see what works several try illusion | 1403.  cannot make several tries cuz each try changes context | 0..1..2..3..4..5..6..7..8..9..10 |
| | | act in own interest fails | 1404.  many actions directly in own interest hurt own interest cuz others reactions; repress revolt increases revolters | 0..1..2..3..4..5..6..7..8..9..10 |
| | **misleading truth appearance in systems** | unplanned results okay | 1405.  people use treatments for own purposes (in own context) so unplanned results inevitable | 0..1..2..3..4..5..6..7..8..9..10 |
| | | solutions look like failures | 1406.  solutions applied at priority problem/crisis areas/times so often fail but still great value cuz context=extreme challenge | 0..1..2..3..4..5..6..7..8..9..10 |
| | | variable fails/works illusion | 1407.  variable X fails or works in some cases means nothing cuz those cases when X used are special or extreme somehow | 0..1..2..3..4..5..6..7..8..9..10 |
| | | anticipate info effects of acts | 1408.  when actors know being watched for info on future reactions, changes how act now | 0..1..2..3..4..5..6..7..8..9..10 |
| | **indicators mislead in systems** | indicator meaning indeterminate | 1409.  if less of those accepted come maybe cuz we are bad or cuz bad ones don't bother applying | 0..1..2..3..4..5..6..7..8..9..10 |
| | | single indicators cause gaming | 1410.  any intelligent person can distort unmeasured variables to get indicator "high" at huge or counter costs | 0..1..2..3..4..5..6..7..8..9..10 |
| | | solving symptoms | 1411.  indicators can indicate success steps in small increments encouraging inadequate scale efforts till real causes overwhelm | 0..1..2..3..4..5..6..7..8..9..10 |
| | | non-causal indicators | 1412.  indicators not focussed on real causes or less distributed or numerous distract from needed causal work | 0..1..2..3..4..5..6..7..8..9..10 |
| | **feedback relativities** | feedback results | 1413.  positive = growth, negative = stable systems, escalation = symmetric growth, appeasement = compensatory change | 0..1..2..3..4..5..6..7..8..9..10 |
| | | feedback topologies | 1414.  within individuals--feeling an emotion makes it bigger; 1415.  between levels--alignment/constraint cascades | 0..1..2..3..4..5..6..7..8..9..10 |
| | | feedback locale/scale dependent | 1416.  arms races show positive feedback at ind.l actor level produces negative feedback at relationship, dyad, level | 0..1..2..3..4..5..6..7..8..9..10 |
| | | same input plus once minus later | 1417.  predator/prey cycles example; winners create envy (neg) but further wins create partnering/adoption (pos) | 0..1..2..3..4..5..6..7..8..9..10 |
| **Types of Feedback** | **negative feedback** | success creates failure | 1418.  expansion creates fear become easier expansion becomes too much expansion till collapse | 0..1..2..3..4..5..6..7..8..9..10 |
| | | unstable pride & depression | 1419.  pride makes more trying till overextension collapse; loss makes less investment so more depression till collapse | 0..1..2..3..4..5..6..7..8..9..10 |
| | | self limiting acts | 1420.  imposed concession produces powerful negative fdbk; successful methods get copied losing their advantage | 0..1..2..3..4..5..6..7..8..9..10 |
| | | info caused negative feedback | 1421.  lock on door tells thieves where to steal from: success atrophies collaboration skills so no help in hard times= failure: using signal causes signal to end (acting on rumor ends it) | 0..1..2..3..4..5..6..7..8..9..10 |
| | **neutral or lateral feedback** | changes create changes | 1422.  one change creates new issues becoming further changes; feedbacks between fdbk cycles evolve laterally | 0..1..2..3..4..5..6..7..8..9..10 |
| | | ideologic poles shift ground | 1423.  dialectic of bigoted responses automated so moves between poles are lateral shiftings of ground | 0..1..2..3..4..5..6..7..8..9..10 |
| | | expectations inflated to zero | 1424.  process of implementing design can inflate expectation till they undermine outcome satisfaction forcing new initiative | 0..1..2..3..4..5..6..7..8..9..10 |
| | | what works undoes itself | 1425.  what works gets copied till org has too little diversity to handle environment change, so success self moderating | 0..1..2..3..4..5..6..7..8..9..10 |
| | **positive feedback** | escalation by identity change | 1426.  I did bad thing, so I am bad, so I might as well do more bad things: media say bank weak so it becomes weak | 0..1..2..3..4..5..6..7..8..9..10 |
| | | escalation by public privates | 1427.  if I see others actualizing what I only wish, my wish become action, causing still others to act = movement | 0..1..2..3..4..5..6..7..8..9..10 |
| | | preparations become actuals | 1428.  I fear X so prepare for it and gather tools and resource for it that appear waste, so they lobby me for actualizing X | 0..1..2..3..4..5..6..7..8..9..10 |
| | | accelerating mutualism | 1429.  integration creates niches for further types of integration | 0..1..2..3..4..5..6..7..8..9..10 |
| | **knowledge & network economy feedbacks** | increasing returns to scale | 1430.  for knowledge products, increasing sales does not increase costs, so prices drop greatly increasing sales | 0..1..2..3..4..5..6..7..8..9..10 |
| | | vaporware, success expectation | 1431.  if success is expected then product succeeds so competition to look most likely to succeed | 0..1..2..3..4..5..6..7..8..9..10 |
| | | escalation by learning costs | 1432.  if better alternative requires much unlearning then it is not chosen | 0..1..2..3..4..5..6..7..8..9..10 |
| | | lock in, rich get richer in network | 1433.  first not best wins (QWERTY); becoming standard raises value greatly so greater growth becoming standard | 0..1..2..3..4..5..6..7..8..9..10 |

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|---|---|---|---|---|
| **Undoing Non-Linearities** | **evolution to opposites via positive feedbacks** | reform causes revolution | 1434.   rulers fear small reforms will get out of hand so no reforms so revolution ensues | 0..1..2..3..4..5..6..7..8..9..10 |
| | | reporters create news | 1435.   reporters ask leaders about stories they want to cover, causing remark-news | 0..1..2..3..4..5..6..7..8..9..10 |
| | | conquest evolves into game | 1436.   first victories make second easier so later conquests are more and more nominal till conquest overall is fluff | 0..1..2..3..4..5..6..7..8..9..10 |
| | | more cycles | 1437.   violation/news/visibility/sales/wealth; greed/striving/compete/ideas/wealth; care/depend/control/helpless/care; | 0..1..2..3..4..5..6..7..8..9..10 |
| | **reduce non-linearity** | prune connections | 1438.   reduce non-linearity of reaction | 0..1..2..3..4..5..6..7..8..9..10 |
| | | cross-level observation | 1439.   monitor results of actions on larger and smaller system size scales | 0..1..2..3..4..5..6..7..8..9..10 |
| | | undo customer stand-ins in system | 1440.   find requirements of functions, professions, leaders etc. substituting themselves for what customer require and undo | 0..1..2..3..4..5..6..7..8..9..10 |
| | | self justifying effect study | 1441.   people study second order effects only if and where consonant with biases and wanted results | 0..1..2..3..4..5..6..7..8..9..10 |
| | **use emergents** | steer emergents | 1442.   use emergent side-effects steered to attain your goal | 0..1..2..3..4..5..6..7..8..9..10 |
| | | tune system interactions | 1443.   till wanted emergents appear; connectedness, diversity, patchings parameters | 0..1..2..3..4..5..6..7..8..9..10 |
| | | do population of strategies at once | 1444.   do multiple contradictory strategies at once, observing side-effects & results, then join emergent winners | 0..1..2..3..4..5..6..7..8..9..10 |
| | | stop by extrema | 1445.   tip into chaos to stop, tip into stasis to stop, tip into cycling to stop, | 0..1..2..3..4..5..6..7..8..9..10 |
| | **manage side-effects** | domino paradox | 1446.   small losses erode image so act boldly after small losses | 0..1..2..3..4..5..6..7..8..9..10 |
| | | move opposite to your goals | 1447.   use reactions to that by others/competitors to attain your goal | 0..1..2..3..4..5..6..7..8..9..10 |
| | | attract by rejecting | 1448.   attracting by playing hard to get | 0..1..2..3..4..5..6..7..8..9..10 |
| | | stopping continual not 1 | 1449.   blocked action produces work-arounds so continual new blockings are needed if you wish to stop some action | 0..1..2..3..4..5..6..7..8..9..10 |
| **Get Causally Systematic** | **manage linkages** | 2 acts: for goal for side-effects | 1450.   act dually, one to attain goal, one to handle side-effects of attaining goal | 0..1..2..3..4..5..6..7..8..9..10 |
| | | act in twos | 1451.   acts that appeal to A and that appeal to A's enemy | 0..1..2..3..4..5..6..7..8..9..10 |
| | | do virtual acts for side-effects | 1452.   do actions whose only purpose is eliciting side-effects which are your wanted main-effects, slough main-effects | 0..1..2..3..4..5..6..7..8..9..10 |
| | | influence by environment | 1453.   influence others by creating environments they adapt to | 0..1..2..3..4..5..6..7..8..9..10 |
| | **form solving populations** | component compliant roles | 1454.   design each system component to do its role while adjusting to help adjacent "environment" parts to do their roles | 0..1..2..3..4..5..6..7..8..9..10 |
| | | cleavage bridging | 1455.   mobilize all usually ranked, separated, professioned things across borders to envision and implement solutions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | process transparency | 1456.   manage processes till transparent to wants of customers they serve | 0..1..2..3..4..5..6..7..8..9..10 |
| | | pluralize units of competition | 1457.   mobilize network of diverse types of firm/org in scale with system causation of phenomena/opportunities faced | 0..1..2..3..4..5..6..7..8..9..10 |
| | **handle systems causation** | distribute probs, causes, solutions | 1458.   distribute throughout entire system problematic aspects, causes of local problems, solutions to undo causes | 0..1..2..3..4..5..6..7..8..9..10 |
| | | act against cause of causes | 1459.   determine root causes generating other causes as symptoms then address the roots, distributed throughout system | 0..1..2..3..4..5..6..7..8..9..10 |
| | | distinguish system/special causes | 1460.   address variations in outcome from traits inherent in system's design from transient happenstance circumstances | 0..1..2..3..4..5..6..7..8..9..10 |
| | | evolving wants & satisfaction | 1461.   find wants unwanted when appear, solution not satisfactory when experienced, design for contexts and outcomes | 0..1..2..3..4..5..6..7..8..9..10 |
| | **undo self contra-dicting solutions** | undo producers become customers | 1462.   producers of a project tend to supplant their needs for end users of the project's product | 0..1..2..3..4..5..6..7..8..9..10 |

**64 Dimensions of Culture from the Culture Mix Model of Creativity:  the Culture of Technologies, Devices, Ideas, Persons, Professions, Practices**

| | | | | |
|---|---|---|---|---|
| **SOCIAL PSYCHOLOGY** Hampden, Turner, Hofstede, Tropenaars, Nisbet | **RANK** | hierarchy or egalitarian | 1463.   make or encourage status differences or equality among users | 0..1..2..3..4..5..6..7..8..9..10 |
| | | power from closeness or power from distance | 1464.   make users closer to each other or more distant in relationship terms | 0..1..2..3..4..5..6..7..8..9..10 |
| | | achieved or ascribed rank | 1465.   privilege pre-arranged roles/users or high contribution ones | 0..1..2..3..4..5..6..7..8..9..10 |
| | | foreground item or background noticed Nisbet | 1466.   require noticing foreground items or background items to do work | 0..1..2..3..4..5..6..7..8..9..10 |
| | **GROUP** | individual or communitarian | 1467.   require/encourage individual work or group-produced work | 0..1..2..3..4..5..6..7..8..9..10 |
| | | universalist or particu-larist (vision vs. case details are real) | 1468.   require/encourage visionary users or exact/detailed users | 0..1..2..3..4..5..6..7..8..9..10 |
| | | inner or outer locus of control | 1469.   establish/confirm self as controlling or situation as controlling | 0..1..2..3..4..5..6..7..8..9..10 |
| | | environment: controllable or uncontrollable | 1470.   make environments of work controllable or uncontrollable | 0..1..2..3..4..5..6..7..8..9..10 |
| | **TIME** | analysis or synthesis | 1471.   encourage making distinctions or combining differences | 0..1..2..3..4..5..6..7..8..9..10 |
| | | serial or parallel | 1472.   encourage sequential work or working in parallel | 0..1..2..3..4..5..6..7..8..9..10 |
| | | one chance or several chance lives | 1473.   allow full easy recovery from errors or punish/ruin work with error | 0..1..2..3..4..5..6..7..8..9..10 |
| | | causation: plural dis-tributed or single local | 1474.   establish things from single causes or from cumulations of causes | 0..1..2..3..4..5..6..7..8..9..10 |
| | **RELATION** | friends over rightness or right over friends | 1475.   favor right ideas or right relationships the most | 0..1..2..3..4..5..6..7..8..9..10 |
| | | humans primary or equal to other life | 1476.   centralize humans or centralize all living beings | 0..1..2..3..4..5..6..7..8..9..10 |
| | | right vs. right or right vs. wrong | 1477.   encourage formulating ambiguous situations thoroughly or categorizing situations int pre-set good and bad types | 0..1..2..3..4..5..6..7..8..9..10 |
| | | categories or relation-ships Nisbet | 1478.   interact entity to entity or person to person | 0..1..2..3..4..5..6..7..8..9..10 |

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|---|---|---|---|---|
| **GENDER STYLE** Tannen, de Beauvoir, Friedan, Nisbet | **INPUT/ OUTPUT** | status or connection | 1479. reward out-doing others or connecting well to others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | exclusion or inclusion | 1480. progress via more and more excluding or via more and more including | 0..1..2..3..4..5..6..7..8..9..10 |
| | | tell or listen | 1481. provide info for others or obtain info from others | 0..1..2..3..4..5..6..7..8..9..10 |
| | | drive for individual: distinction or fitting in Nisbet | 1482. encourage users to look distinct from others or fit in with others | 0..1..2..3..4..5..6..7..8..9..10 |
| | **EMOTION** | feelling as: interesting or embarrassing | 1483. respect and encourage expressing/using feelings or hinder it | 0..1..2..3..4..5..6..7..8..9..10 |
| | | mis-hearing as: relation or status threat | 1484. make loneliness or feeling insulted the result of response failures | 0..1..2..3..4..5..6..7..8..9..10 |
| | | harshness as: personal rejection or sign of respect | 1485. make personal rejection or respect the result of harsh reactions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | backward reasoning or forward reasoning Nisbet | 1486. extend aspects of present situation toward solutions needed or extend back from solutions needed to pre-solution steps needed | 0..1..2..3..4..5..6..7..8..9..10 |
| | **PURPOSE** | info: mind to mind or relation: person to person | 1487. link thought to thought or person to person | 0..1..2..3..4..5..6..7..8..9..10 |
| | | talk to solve or talk for empathy | 1488. use interactions to solve or to emotionally understand others' viewpoints and situations | 0..1..2..3..4..5..6..7..8..9..10 |
| | | exactitude or detail | 1489. require or encourage precision or thorough coverage of details | 0..1..2..3..4..5..6..7..8..9..10 |
| | | preserve: save face or save truth Nisbet | 1490. favor being true at a cost of being hated or being loved at a cost of being untrue | 0..1..2..3..4..5..6..7..8..9..10 |
| | **CONFLICT** | independent or dependent | 1491. use interactions to make user more independent or to make them more dependent | 0..1..2..3..4..5..6..7..8..9..10 |
| | | contest or community | 1492. establish competition or victories among users or shared feeling and community among them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | argumentative or apologetic | 1493. encourage argumentative/challenging inputs or accomodating/apologetic ones | 0..1..2..3..4..5..6..7..8..9..10 |
| | | contradiction: tolerated or not tolerated Nisbet | 1494. use and produce contradictions or avoid and fail when things contradict | 0..1..2..3..4..5..6..7..8..9..10 |
| **EXISTENTIAL QUESTIONS** Kukai, Lao Tsu, Sartre, Kierkegaard, Nisbet | **SITUATION** | MYSTERY: why something? people or institutions eternal | 1495. treat users as expendible and work as vital or treat works as expendible and users as vital | 0..1..2..3..4..5..6..7..8..9..10 |
| | | ARBITRARYNESS: why here, now? ethnic group basis or function basis | 1496. require and reward users for the group/role they belong to or for the functions they perform | 0..1..2..3..4..5..6..7..8..9..10 |
| | | EMPTINESS: where is meaning? found or made meaning | 1497. invite users to construct the meaning of their experiences and work or to find it | 0..1..2..3..4..5..6..7..8..9..10 |
| | | RELATIVITY: what is true? life/groups are arrangements of: tasks or people Nisbet | 1498. believe/value users because of who they are or because of what they do | 0..1..2..3..4..5..6..7..8..9..10 |
| | **CHOICE** | FREEDOM: you can't see me role = i.d. or intent = i.d. | 1499. make users free to play any role they want or free to pursue any goal they want | 0..1..2..3..4..5..6..7..8..9..10 |
| | | LONELINESS: why love dies? love the role or love the person | 1500. encourage users to love/depend on the roles others play or love the personalities others have | 0..1..2..3..4..5..6..7..8..9..10 |
| | | INAUTHENTICITY: why does posessing make me object adaptors or revolutionaries | 1501. pull users beyond current views, habits, and goals or pull users more into current views, habits, goals | 0..1..2..3..4..5..6..7..8..9..10 |
| | | RESPONSIBILITY: what/who am I? the self is: unitary across situations or varies by situation Nisbet | 1502. require a different user persona in different application situation or require the same user persona across all situations | 0..1..2..3..4..5..6..7..8..9..10 |

R. T. Greene,    A Creativity Checklist

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|---|---|---|---|---|
| **EXISTENTIAL QUESTIONS** Kukai, Lao Tsu, Sartre, Kierkegaard, Nisbet | **IMPACT** | MORTALITY: must I die? death is most real or life is most real | 1503.   pull users beyond living and earth or pull users more into living and earth | 0..1..2..3..4..5..6..7..8..9..10 |
| | | NAUSEA: why engage ugly life? flaw: ingratitude or unfree | 1504.   punish or react badly most to users who fail to depend on and trust others or who fail to go beyond others and their own selves | 0..1..2..3..4..5..6..7..8..9..10 |
| | | CONTINGENCY: why can I not make my own story don't bother others or self Nisbet | 1505.   punish or react badly most to users who bother other users or who bother themselves | 0..1..2..3..4..5..6..7..8..9..10 |
| | | FUTILITY: will it/I make a difference? preserve: peacefulness of exteriors or fairness of exteriors Nisbet | 1506.   reward most users who conform to tasks/others or who upset tasks/others | 0..1..2..3..4..5..6..7..8..9..10 |
| | **FLAW** | TRAGEDY: how could I have known? deny consequences or deny possibilities | 1507.   have consequences users discover by surprise later or have opportunities users discover by surprise later | 0..1..2..3..4..5..6..7..8..9..10 |
| | | SIN: why I don't do my own plans? situation or self to blame | 1508.   invite blaming the interface/technology for failure to reach goals or invite users blaming themselves | 0..1..2..3..4..5..6..7..8..9..10 |
| | | NO ESCAPE: why is not choosing also choosing? groups act or self acts | 1509.   produces results when individuals input/act or when groups input/act | 0..1..2..3..4..5..6..7..8..9..10 |
| | | AUDIENCE:  am I heard? seen? life is a story of: my experiences or the group experiences I play roles in  Nisbet | 1510.   expose others to my deeds as a story of possible value or expose me and other users to the group's deeds as a story of possible value | 0..1..2..3..4..5..6..7..8..9..10 |
| **COMMUNITY** Geetz, Weisbord, Greene, Grunell, Todorov, Nisbet | **WORK** | seniors: caring or competitive | 1511.   encourage seniors to help juniors or to hinder them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | work: pleasant end or unpleasant means | 1512.   treat work as a pleasant end in life or as an unpleasant means in life | 0..1..2..3..4..5..6..7..8..9..10 |
| | | results: from effort or talent | 1513.   reward the most talent with good results or reward effort the most with good results | 0..1..2..3..4..5..6..7..8..9..10 |
| | | work to feel good about self or work to critique and improve self Nisbet | 1514.   encourage people to work to appreciate better them selves or to work to critique and improve them selves | 0..1..2..3..4..5..6..7..8..9..10 |
| | **SACRED** | gods: immanent or transcendent | 1515.   provide value and meaning from immediate sources to immediate work or from distant sources to distant work results | 0..1..2..3..4..5..6..7..8..9..10 |
| | | primacy:  life or quality of life | 1516.   sacrifice quality of work life for results or sacrifice quality of results for quality of work life | 0..1..2..3..4..5..6..7..8..9..10 |
| | | the world:  is sacred or is fallen | 1517.   treat all steps of work as valued and meaning-filled or treat all steps of work as instrumental tools toward valued goals | 0..1..2..3..4..5..6..7..8..9..10 |
| | | substance or object seen Nisbet | 1518.   highlight what things are made of or highlight what things are made of substances | 0..1..2..3..4..5..6..7..8..9..10 |
| | **CREATION** | drive to center or drive to margins | 1519.   encourage people to leave how others are or to more deeply embed themselves in how others are | 0..1..2..3..4..5..6..7..8..9..10 |
| | | self indulgent asceticism or moderation | 1520.   reward extremes of thought or behavior or moderation of them | 0..1..2..3..4..5..6..7..8..9..10 |
| | | focus from single project or from parallel projects | 1521.   focus users on single efforts/directions or on plural simultaneous efforts/directions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | choice: one pole or other or blended middle Nisbet | 1522.   require choosing among polar opposites or blending differences into a moderate middle | 0..1..2..3..4..5..6..7..8..9..10 |
| | **COMPLEX-ITY** | gradual change or avalanches | 1523.   produce gradual improvements and results or sudden large leap improvements and results | 0..1..2..3..4..5..6..7..8..9..10 |
| | | homogeniety or diversity | 1524.   reward/require greater diversity among users/a user or greater homogeneity | 0..1..2..3..4..5..6..7..8..9..10 |
| | | design or emergence | 1525.   produce results by step by step designing or results that self emerge from myriad interactions | 0..1..2..3..4..5..6..7..8..9..10 |
| | | world reality is:  stable or in flux (contracts always renegotiable) Nisbet | 1526.   require/reward keeping promises more than changing them or require/reward changing promises more than keeping them | 0..1..2..3..4..5..6..7..8..9..10 |

| 64 Social Processes | | | |
|---|---|---|---|
| **Resources:**<br>**finding/creating necessary inputs**<br><br>Natural resources, human ones, technology (knowledge resources some would say) are obvious. Time resources are puzzling. Time resources are called "windows of opportunity" in business magazines. This means time itself opens windows and closes windows. Being able to change goals fast and implement new businesses fast, is a key to survival, as internet infrastructure lubricates and speeds communication and cooperation. For a sculptor clay is a natural resource, his models or himself are human resources of his work, and studies of different clays or metals and techniques for fashioning them are his technology resources. His time resources are when a certain type of innovation by him will be new enough yet understandable enough to get positive reception by his field of fellow sculptors without diminishing his work's ultimate appeal to the history of sculpture. | Natural<br>1527. how are necessary inputs found/created for this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Human<br>1528. how are necessary humans and human traits found/created for this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Technology<br>1529. how are necessary technical means found/created for this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Time<br>1530. how are necessary amounts of time and timing between windows of opportunity opening and closing found/created for this X in society | | 0..1..2..3..4..5..6..7..8..9..10 |
| **Production: setting up transforma-**<br>**tion processes**<br><br>Production tools, forces (people trained appropriately), systems, and quality are fairly obvious. A sculptor has production tools and he is his own production force. His production system is his unique way of work. The quality of his work is its conformity to his requirements as a primary customer of his finished work and the requirements of the history of sculpture on any new work trying to join the pantheon of works remembered and taught throughout history. | Tools<br>1531. how are necessary tools and instruments found/created for this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Forces<br>1532. how are necessary organizations of persons found/created/operated for this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Systems<br>1533. how are necessary organizations of tools, facilities, and other non-human means found/created/operated for this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Quality<br>1534. how is necessary quality of output, quality of production process, quality of intent, quality of imagination, quality of morale found/created/operated for this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| **Distribution: allocating across**<br>**abstract landscapes**<br><br>Distribution involves property, markets, consumption, and incentives. This is distribution in a general large-scale sense of distributing clay to sculpture, kissess to particular lovers, or whatever. Kisses occur in a love market (other lovers possible, an intense reality when we were teenagers), with greater sexual participation sometimes the incentive (or formal marriage and financial security a different incentive for some). A sculptor creates property that is valued in markets for sculptures and consumed by people who buy and display or commission sculptures. The sculptor operates in an environment of incentives with short term commercial rewards often being ignored in favor of a unique artistic vision that promises someday to make his work famous throughout history. | Property<br>1535. how is necessary ownership and responsibility for care found/created for this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Markets<br>1536. how is necessary change of ownership and responsibility for care found/created for this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Consumption<br>1537. how are necessary uses and appreciations of owned things found/created for this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Incentives<br>1538. how are people rewarded enough to make "making an effort" and "achieving quality of process and outcome" and other social goals grow exponentially throughout all levels, layers, functions, and divisions of this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| **Productivity: improving outputs**<br>**per unit input**<br><br>Productivity is a matter of resource productivity, variation producing productivity, measurement of productivity, and innovation productivity. Given time and clay a sculptor has a certain productivity level. The work of the sculptor exhibits a productivity of variation production as well-- the number and quality of variations produced per work produced overall, for example. The sculptor has a metric of his own productivity (of things, and of interesting variation in his things) whether conscious or unconscious. Finally the sculptor has a productivity of his innovations--how innovative his variants are compared to his own past works and competitor works or demands of his customers. | Resources<br>1539. how is this X in society achieved using fewer or less expensive resources? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Variation<br>1540. how is variation in, this X in society and how it is used and produced, tinkered with using small and risky large-scale variations so that better forms and means of attaining it are discovered? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Measurement<br>1541. how is measurement improved so gaming of systems and corruption of goals and means continually reduced and minimized in achieving this X in society? | | 0..1..2..3..4..5..6..7..8..9..10 |
| | Innovation<br>1542. how are all aspects of this X in society replaced by newer and bolder and more ambitious means and goals? | | 0..1..2..3..4..5..6..7..8..9..10 |

**Economy:**
**handling demand/supply balances**

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|---|---|---|---|
| **Polity: making decisions** | **Peace: making near futures reliable**<br><br>Polity refers to decision making by individuals or groups. It is divided into peace, justice, welfare, and anticipation. Peace is the maintenance of structure and process (procedure) so that a society can "decide" rather than chaos "deciding". Justice is continual adaptations of that structure and process to account for dissatisfied parts of society. Welfare is society being responsible for people left behind by what the society chooses to emphasize and believe. Anticipation is society being responsible for people not yet born. Peace is a sculptor maintaining enough order in his workplace, lifestyle, and schedule to produce. This means defense--defending himself from taxes, administrative paperwork, family hassles, and the like. This involves policing boundaries in his work and life--keeping the kids out of the work studio, keeping the old college friends out of his summer intense work months. This involves the sculptor in enforcing behavior laws for himself--when to wake up, when to work hard, when to relax, when to consult others. Inevitably the sculptor develops norms about how to work as well as about what to create when working. | Defense<br>1543. how are external threats to X in society thwarted? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Police<br>1544. how are internal threats to X in society thwarted? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Laws<br>1545. how are the external and internal environments that X operates in made stable enough to invite improvement and investment? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Norms<br>1546. how are social enforcement means established so that the costs of achieving stable environments around X are not self defeatingly high? | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Justice: fixing fairness gaps**<br><br>Justice is the sculptor continually adapting his work structure and process to account for dissatisfaction of important constituencies of his work, including himself. When critics are right about certain ruttednesses appearing in his last three works, he legislates--makes a new law to himself, to change work materials in a long contemplated innovative way, to surprise such critics by breaking out of any past ruts he fell in. When a friend questions a work he is in the midst of, he juridicates--considering carefully his own motives and means versus the friend's comments' possible value and makes a decision about whether to listen to what he heard and implement it. When tiredness is threatening to overwhelm him he executes--pushing himself to do what he today set out to do, regardless of temporary pains. When he disappoints himself with the quality of work he produces yet each new effort does not seem to help, he mediates--he consults outsiders able to get him outside his own past frameworks and habits. | Legislation<br>1547. how are new laws involving this X in society invented and made legitimate and populations informed of their fairness and goals and existence? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Juridication<br>1548. how are conflicts, omissions, flaws, and unfairnesses in laws involving this X in society found and extirpated without continually redoing all laws as everything changes? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Execution<br>1549. how are laws agreed on about this X in society actualized and turned into powerful realities? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Mediation<br>1550. how are pre-laws, that is less formal specifications of agreements and what futures will be like, created about this X in society that allow types of agreement that laws would be too slow, costly, and punitive for? | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Welfare: circulating those who drop out of your system back into it**<br><br>Welfare for a sculptor is the rest of the aesthetic values, other than those central innovations of any work, that the work has to have for general acceptance and interest building in the field of sculpture as a whole. The sculptor looks at values he might tend to slough entirely in his intensity and onrush to do something innovative from his own personal vision. He sees what his onrush is tending wrongly to slight or leave behind. This involves leaving space (physical, mental, schedule, or other) for values not central to his vision. This involves the right of certain non-central values to stay in his sculpture. It involves checks he implements to see that one value does not crush out other important values in his work. This involves designing and evolving his work so that there is opportunity for various important values to get expressed in it. | Spaces<br>1551. how are all people invited to perform before peers and other generations so that invisibility and anonymity does not lead people to forget or harm this X in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Rights<br>1552. how are all existing entities involved in this X in society protected from unwitting or sneaky planned side-effects of new entities, laws, events in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Checks<br>1553. how are all the powers and interests in society involved in this X in society kept separate and diverse and splintered enough so that none of them and no one coalition of them can dominate and oppress all the others? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Opportunity<br>1554. how is this X in society exposed to all parts of society in ways that maximize new possibility, growth, worth, and profit for all of society? | 0..1..2..3..4..5..6..7..8..9..10 |

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|---|---|---|---|
| **Polity: making decisions** | **Anticipation: selling current sacrifices to avoid future harms** Anticipation is the sculptor looking beyond present reputation and work to his future ultimate destiny. This can involve assessing himself and his work relative to the powerful interests of others in his and related fields. This can also involve adjustment plans he makes to evolve his work in directions better directed toward ultimate fame or innovative reputation. This can also involve changing the entire purpose of his work as a sculptor, for example, letting go of remaining concerns about fame and concentrating on a powerful internal unique vision that is worth more to him than judgements of others. This also involves opening himself to inputs that hithertofore he ignored--taking a dance class, for example so his own sense of body informs better the forms he sculpts. | Interests 1555. how does this X in society make room for and respond to future groupings and their interests in society that are just now emerging and not yet powerful and represented in formal laws? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Plans 1556. how does this X in society get onto plans for the future all over society before it is big, famous, and powerful? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Purposes 1557. how does this X in society create appropriate new purposes and goals all over society before it is institutionalized and powerful? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Inputs 1558. how does this X in society become an input to all important processes in society it is relevant to before it is powerful and established and well known/funded? | 0..1..2..3..4..5..6..7..8..9..10 |
| **Culture: creating meaning** | **Wisdom: knowing that transforms actuality** Culture is the process of creating meaning of things in society. Meaning is created by developing and exercising: wisdom, style, symbol, and diversity. A sculptor develops wisdom by developing skills, knowledge, meaning of his own to his work, and exercising all the above till a state of great mastery is achieved. | Skills 1559. what skills, procedural knowledge, is involved with this X in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Knowledge 1560. what knowledge, declarative knowledge, is involved with this X in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Meanings 1561. what meaning gives rise to this X in society and what meanings does it give rise to or change? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Exercises 1562. what exercising of skills, knowledge, or meanings give rise to this X in society and are spawned by the rise of this X in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Style: structuring care** A sculptor develops style by recognizing and using his place in recent generations of sculptors, fashioning an inspirational life from unique family arrangements, engaging the visions and stimulations of society via particular social structures, and using his accomplishments and status as resources by helping others less accomplished and respected (benevolence). | Generations 1563. what impact does each generation in society have on this X arising and what impact on each generation does this X have? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Families 1564. how does this X in society impact families, their types and styles, and how do they impact this X? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Structures 1565. how does this X in society impact social structures and how do they impact this X? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Benevolence 1566. what benevolence is necessary to give rise to this X in society and what benevolence towards the rest of society does this X give rise to? | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Symbol: highlighting important experiences** A sculptor becomes a symbol by how he talks about himself and his work, the art he achieves via innovations in his way or subjects of sculpting, the way his work uses and interprets the structured accumulated meaning systems inherited by his society, and the impact of his work on popular imagination and values of his time. | Language 1567. what language aspects must be developed to give rise to this X in society and what aspects of language does it give rise to? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Art 1568. what art must be developed to give rise to this X in society and what arts does it give rise to? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Religion 1569. what religious ideas/symbols give rise to this X in society and what such ideas/symbols does it give rise to? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Secularity 1570. what non-religious means of establishing the same ideas and meanings as found in all parts of most religions give rise to this X in society and does it give rise to in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Diversity: meshing incompatible frameworks** A sculptor manages diversity by seeing how his successes generate unplanned side-effects that defeat him, seeing how his intents, plans, and designs sometimes blind him to better results that just self-organize and emerge, becoming aware of the non-linear dynamics in his work, and developing a process to manage such dynamics by tuning system performance using certain general system-wide parameters like the degree of connectedness of things in his sculpting production system, or the degree and types of diversity in that system. | Succeeding that Fails 1571. how does the success of doing X in society threaten to cause X to fail? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Tampering 1572. how does establishing X in society involve tampering--intervening in a system whose laws you are ignorant of--and how does using X in society involve such tampering? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Social Automata 1573. what interactions of what populations of entities give rise to X in society and what such interaction populations with surprising emergent results does this X give rise to in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Non-Linear System Dynamics 1574. what non-linearities in society give rise to this X and what non-linearities does it give rise to? | 0..1..2..3..4..5..6..7..8..9..10 |

| Founding: social change | Liberty: freedom from | Miracle<br>1575.  what last straw does this X in society become that liberates people from somethiing and what last straw in society in necessary to create this X in society? | 0..1..2..3..4..5..6..7..8..9..10 |
|---|---|---|---|
| | Foundation is social change that produces permanent new institutions in the world.  For a sculptor foundation is the process of making personal slight (or large) changes that spawn permanent institutional changes in the world of sculpting.  This requires that the sculptor liberate himself from personal habits and the past practices of his field.  That he make promises to new people and images that result in entirely new forms of sculpture self organizing in his work (freedom).  This involves people worldwide getting excited about their own new possibilities for creating based on the new features that self emerge in his work.  Finally, this involves the sculptor defending the novel content of his inventions from forces well established in his field and society that try continually to erode that novel content, interpreting it from past frameworks and values.  Liberty is the miracle of breaking with the past yet still surviving with the profit of new promise to one's work and life by no longer being hindered by certain past practices.  Liberty thrusts you into a no man's land without overt and familiar past supports where you have only your own initiative as support.  A sculptor liberates himself when he breaks with his field and its priorities and preferences, at a risk of never being respected in it again. | Promise<br>1576.  what new power just from promises made among people sharing liberation from some aspect of the pasty arises to give rise to X and does X give rise to? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | No man's land<br>1577.  what no man's land between the past yet not a fully done future gives rise to this X in society and is spawned by this X in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Initiative<br>1578.  what break in stasis, equilibrium, and balances does this X in society come from and by itself establish? | 0..1..2..3..4..5..6..7..8..9..10 |
| | Freedom: power invention from nothing & discovery of public forms of happiness | Novelty<br>1579.  what utterly new thing in history and society does this X generate and generated this X in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | Freedom is the outbreak of public happiness in individual private work and lives.  Public happiness comes from finding yourself changing history rather than just sprucing up your private profits and works.  People discover public happiness.  It breaks out in the midst of the pain and suffering of liberating yourself from the tyrannies of your traditions, nations, and field.  It breaks out when you discover new colleagues, you never suspected before, who are with you as you innovate beyond past tolerances and preferences.  The discovery of these new colleagues and their mutual work and inspiring with you of truly innovative history-changing works, becomes the action that unleashes the new kind of happiness of public happiness, changing private profit into history change.  These new colleagues covenant with you to together change the world.  In doing so all involved agree to leave behind personal profit for the greater good of changing the history of the field, sculpting in the case of my example.  A sculptor frees himself when he discovers such new colleagues as he radically challenges past practices in sculpting. | Covenant<br>1580.  what promises among liberated people created this X and are created by it? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Happiness<br>1581.  what new more public form of happiness created this X in society and is created by it? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Emergent Action<br>1582.  what action, beyond labor and work, whose meaning gradually emerges from unpredictable consequences of it, give rise to this X in society and are spawned by it? | 0..1..2..3..4..5..6..7..8..9..10 |

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|---|---|---|---|
| **Founding: social change** | **Historic Dream: changing others then and there by what we do now here**<br><br>Historic dream happens when people unrelated to the sculptor take notice of his innovation and get inspired to liberate themselves from the things he already liberated himself from. Some of them agree to covenant with him to change history with him. Some of them are attracted enough to come to him to work under him as disciples. The drama of watching from afar the sculptor's liberation struggle, his loneliness and rejection by the field, gives way to admiration as he shows the way to a totally new way to sculpt. In doing so he creates a haven, a safe place for radical accomplishments not welcome in the field as a whole that attracts immigrants and disciples. The result is fame--local actions here and now changing people's destinies there and then (in the future). | Drama<br>1583. what drama of liberated ones together with each other fighting the forces of the past to establish the utterly new in history does this X give rise to and spawn this X in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Showing the way<br>1584. what new way to be human gives rise to this X in society and is spawned by it? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Haven<br>1585. what others across the world come, attracted by the novelty engendered by this X in society or attracted by something else that creates this X in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Fame<br>1586. what history-long fame emerges from those creating this X in society or is generated by this X being in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | **Conserving Novelty: protecting the new from the old**<br><br>Finally, innovations have to be protected from all those un-new things that have accumulated power and prestige and political connections for years while the innovation was not around. Innovations are babies attacked by adults. Conserving novelty means doing this defensive work. Particularly, for a sculptor, the danger is re-interpretations of his work as consonant with abhorrent past practices, as the formerly most visible and famous people in sculpting try to say that his new innovation is just a simple extension of their own "greater" past ideas. The pain in all innovation is by definition an innovation makes former innovations look like past practice, non-innovations (as indeed they now are after a new innovation is offered up). Those people who created those past innovations, become, automatically, no longer innovators but past heroes. Many such people hate innovators, like themselves, because they become fat and complacent about parading around as innovators themselves. In my interviews of creative people it was striking how unfairly some of them evaluated other rising stars in their field. Some of them viciously attacked people troding paths very similar to the paths they trod before. Note that liberty, freedom, the spontenous emergence of public happiness, historic dreams, and conserving novelty represent the natural selection style creativity process within social units on all scales from thoughts in minds to rising civilizations. For more on this connection see Greene, Journal, Sept. 1999. | Recognizing Utter Novelty<br>1587. what that is utterly new gave rise to this X in society and what that is utterly newe did this X in society point out or draw attention to? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Preserving Novelty<br>1588. what forces of the past were overcome to establish this X in society or did this X overcome to establish something else new in history? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Re-interpreting the Past<br>1589. what version of the past did this X usher in or what change in interpretation of the past ushered in this X in society? | 0..1..2..3..4..5..6..7..8..9..10 |
| | | Inventing New Novelty<br>1590. what new novelty is now possible because X is in society and what new novelty in society made this X possible? | 0..1..2..3..4..5..6..7..8..9..10 |

## Creativity: Theory Basics
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