

The Attractor-Incubator- Approach (ATICA)

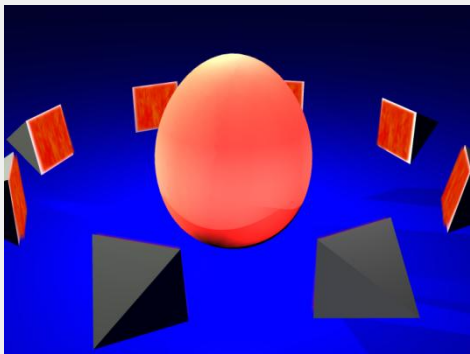
The heart of creative structures

The attractor-incubator approach, first presented in my book "Der kreative Imperativ" (Creative Imperative) of 1998, has as objective to dive into the core of creative structures, like creative businesses, cities or regions, hotspots, of magical places.

Its assumption is that any deeply creative structure is an intimate connection of an *incubator* and an *attractor*, a combination which finds really new solutions in contrast to the ordinary everyday way and, based on that, ensures rapid explosive spread. Together they stand for *real* change instead of incremental improvements or "messaging around with the symptom."

Because an idea without application and spreading is as if it was not thought at all, as well as rapid spread without a radical new idea that promises real solutions is a fad or a big show, but nothing more. True creativity goes to the core. It solves open issues and pressing problems in an unprecedented way.

Pattern Interrupt: Radical Innovation in the Incubator



Today an incubator is often referred to as a place where research and start-ups are bundled, complete with the best options for financing, through either venture capital or government funding. Its meaning in the Attractor-Incubator-Approach is definitely more radical.

Innovation there is a fundamentally new solution for a problem. And since deadlock problems are never really solved with approaches that started them in the first way, an innovation must necessarily be a break with the past.

Creativity and innovations not radical in this sense are actually not really innovations. They are declared innovation only in retrospect, as a constant, linear development satisfies our need for security, also in the field of innovation.

Creative folks are unpopular

In the existing paradigm, new approaches of creative people are almost always nonsense. So knowledgeable, experienced people feel entitled to talk out the creatives again. They "just did not get it, how it works in practice."

Therefore, neither society nor a company, despite paying lip service, do really invest in creativity. They invest in creative ideas from 20 years ago. It is no wonder that creative breakthroughs in companies often are performed on some hidden corridors by people on their own initiative, against the declared will of the Board.

This means the core is that inventors of new creative solutions must be brought to save places, protected from their environment. You need a shielded area where new approaches are being tested and can mature, without being constantly pulled back from the previously applicable truths. They need a nesting site, an incubator.

Sticky recipes

One difficulty with innovation is known for a long time. DeBono called it "standard pattern" Johansson "associative barriers," Kuhn "paradigms", but all these concepts run out on the same. We humans tick – following our evolutionary imprint – in a way that we put together patterns based on our experience, explanations for the world, beliefs, recipes, rules. The more often we are successful with them, the more firmly we believe in them. And these are not just thoughts, but this is often becoming "hardware": The more we think or act following a certain pattern, the more pathways are routed in our brains. This way they become the proverbial beaten path of the mind.

These hardwired paths keep our thoughts and therefore our ideas and actions in fixed orbits like the ice channel the bob or the rails the train. We only go where switches have been already set.

And this in our individual brains as well as in society, even in the self-organization of the Internet. No matter what you encounter, it moves immediately into the proven course and executes with the appropriate approach. Even if - and here begins the problem - what we perceive as current environmental situation has nothing to do with what originally led to the wiring in our brain. The brain is skilled in seeing patterns and recognizes the established pattern even with only distant resemblance. What does not fit is made to fit. Until the discrepancies are so large that they can no longer be ignored. Then we are desperately looking for new approaches and solutions. Therefore, crises are good for creativity.

And we seem to be unable to get these patterns out of our brains. We cannot drain the brain. No reset button here. No non-knowledge. No re-engineering the brain. Therefore, Max Planck said so frustrated that innovations do not win through persuasion, but by the dying of their opponents (and therefore their brains).

However, we have to get out of these patterns and ready-made recipes. Because we only get new solutions when turning away from the prescribed path. Although it is hard, because the current path has led us to successes and permanent improvements. Therefore if we leave the path, again lots of "practically experienced experts" are eager to explain that we turned at the wrong point, because we do not know the right way.

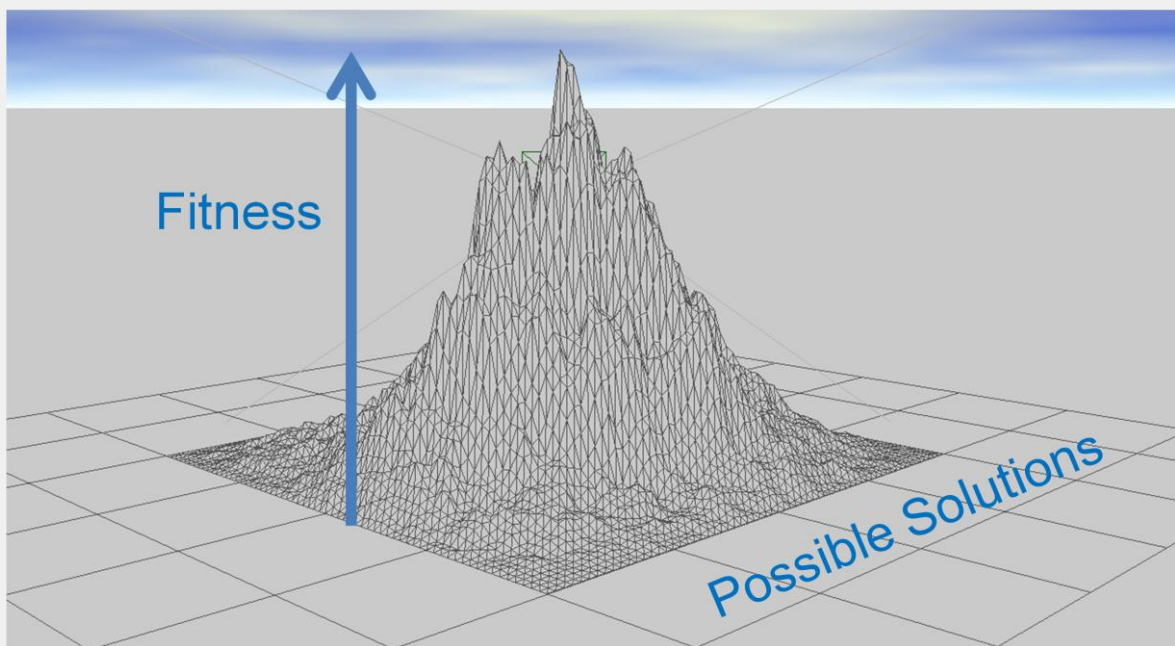
"Improvement makes straight roads, but the crooked roads without improvement are the roads of genius" (William Blake)

Therefore calls for the promotion of innovation are so difficult and to assess skeptically. For the really creative things in the current context are not only unsustainable but simply nonsense or not even on the radar. In this case, things are funded which currently are held for innovation but often saw the light of day decades ago. This promotion then blocks the next wave.

Conclusion: If you do not want to leave innovation to chance, as in natural innovation, where it may just last a few million years, you have to promote the breaking of patterns, the getting out of beaten tracks, associative barriers and attractive standards. You have to create the potential for something new and give shelter to the things developing, when they grow against hostile environment.

Diversity

The best potential for new things has always been the clash of diversity. And this did not start with us humans. One of the inventions most fertile for creativity in earth's history is Sex.



To understand that, have a look at the image above showing a so-called "fitness landscape": Points on this hill are solutions to increase evolutionary fitness. So for example, the horse "develops" during millennia certain legs to run faster and thus secure its own survival. The higher you get on the fitness hill, the better you are equipped to ensure your own survival. Difficulty begins when you reach the top. Any development that can take place worsens fitness (because you have to "go" downhill). But: How do you know that there are no better solutions? That you are not left on a small hillock, surrounded by real mountains with brilliant solutions?

„My worry is we could be stuck on top of hill, thinking we are top of the world and it's not the right hill.“ (Udi Manber, Google Vice President)

The evolutionary solution? Sex! The combination of different genetic material to constantly bring in new solutions, i.e. new fitness hills to climb. Whenever you are done with incremental improvements on your own hill, crosses with beings on other hills should follow.

Apply that to humans: It was indeed beneficial if members of a population in search of a partner sometimes changed the valley during the centuries. Same for ideas. Trade and population movements were a source of innovation such as coming together of people from many regions in central marketplaces. Therefore, Matt Ridley speaks of "Ideas having sex." Others talk of *brokerage*, the mediating between the different social worlds in particular.

„It is hardly possible to overrate the value . . . of placing human beings in contact with persons dissimilar to themselves, and with modes of thought and action unlike those with which they are familiar . . . Such communication has always been, and is peculiar in the present age, one of the primary sources of progress“ (John Stuart Mill, Principles of Political Economy)

The Art therefore is to create places where diversity clashes.

“Shock comes when different things meet. It’s the interface that’s interesting.” (Rene Fortou)

Following our nature we are usually doing the opposite. We surround ourselves with people who are like us, we are hiring people with "company fit" or combine "team players". People who get along with each other. But going to places where people like yourself meet, hampers creativity!

The first design principle for an incubator therefore is to bring together diversity and variety. Such a place is often called **Intersection**, the overlap of different worlds. A place where standard explanations for a given pattern no longer fit because there are too many of them simultaneously. Good opportunities for new patterns or for transferring known patterns to areas where they were previously unknown. The "lowering of associative barriers" to put it formal, following Frans Johansson.

Such a pooling of diversity already produces more ideas just for quantitative reasons, because of combinatorics. There are simply more possible combinations of different elements. And quantity counts, because: Most innovators invent a lot! An incubator therefore must be a place where the chances for unusual combinations can be increased dramatically.

Fundamental Questions

But: a place with diversity, overflowing with ideas, does not necessarily produce creative things. Just combining diversity in one place would probably start pure divergent chaos. The concentration of diverse talent must be challenged with a task, a hard nut for its teeth.

And nothing is more suitable for that than "big questions". Questions related to fundamental changes and solutions, questions where you have to „hang the bar higher". Questions fermenting in the subsurface of society or the Company's industry, questions induced by crisis, questions bearing the seeds of change. And these questions are given to the team. Together with a budget and a time frame.

Steve Jobs confronted his Macintosh team with the task of inventing a computer to „put a dent into the universe“. Kennedy chose to go to the moon in a decade. And Bob Taylor prodded his team at Xerox PARC to invent interactive computing.

Therefore, there has to be a main topic, a "vector". And it has to be presented in question form. The opposite is innovation in enterprises or society where solutions are directly proposed, complete with details for which parts funding are available. In this case, people seem to already know the right solution, the rough shape of the future. And they hand it over to the creatives for finishing. This way nothing new is invented, talent and diversity dissipate.

A few good examples of how to put your team to the task. In the pharmaceutical sector, there are so-called Drug Performance Units, scientists in small groups with a budget for three years and a therapeutic target: They get the question of how to tackle a particular disease and then are left alone. This was called "deindustrialization of R & D", compared to the previous idea of how to sort out ideas on the assembly line as quickly as possible, to generate and refine products.

Awesome is the procedure of the X-Prize Foundation. It proposes to the creative teams of the world powerful questions, not the way to the answer. And with only the promise of a prize for the winner, without even assigning a budget! They ask who first gets into the orbit, can land on the moon, can drive a hundred kilometers with almost no fuel or how to create a computer doctor whose diagnosis cannot be distinguished from a human expert team. And then teams try various approaches globally to solve problems, where for decades large organizations have failed to get results.

Closed

We have written that creative people with their new approaches must be taken to safety, against their environment. This is evolutionary tradition: the membrane of a cell belongs to the first means of life, to arm itself against the hostility of chaos out there. Without this hard separation from the outside the diversity of living things would have never developed.

The place where diversity is bundled to answer the big question should be closed to the outside and oriented inward. The team at Apple thanked Steve Jobs that he gave them room protected from the "Corporate Noise". The district of Chicago where Jazz was borne was also a ghetto, where new forms of expression were found, to develop a self-identity for newcomers from the south, to balance the foreign Yankee culture.

Ingenious incubators have all the characteristics of a sect in excess. It must be the religious zeal! The Macintosh team spoke of a "transcendental thing, bigger than everyday life." They spoke of a common goal, to orient themselves around this goal as a group, a goal not appreciated outside the group.

Clear delimitation often requires explicit opposition to be intensified. The development team at DEC was a "VAX-killer," for the Macintosh team IBM was the enemy, at PARC in California the "people on the East Coast" ("normal" manager of Xerox). Hollywood was built at the west coast of

the U.S. as a protest movement countering the efforts of Thomas Alfa Edison to establish a trust on the East Coast.

Even when looking at the social behavior in these teams you see the proximity to a sect. The group controls itself inward, holding "deviants" on track and drives the members to work more than any autocratic regime leadership could. Because these are creatives among themselves, they judge each other and inflate the requirements. There is mutual control. Accordingly, Steve Jobs described that the best people manage themselves and do not have to be managed. If they know what to do, they would find out for themselves how to get things done.

Many people are irritated to hear about this radical demand for closure in the context of creativity. Shouldn't you think "free" and "limitless" to be creative? First, you look for people as different as possible and then you lock them up? Don't such closed groups tend to have the reputation of being narrow-minded and block innovation? Yeah, but this description better fits groups that previously were not varied. . . It is the combination of great diversity, great talent, a challenging question, and the shelter from the normal, previous, critical.

It is also argued that today with "open innovation" exactly the opposite is modern. Open up innovation as much as possible by networking! This is no contradiction, because open innovation primarily causes more input into the incubator, greater diversity, more talent. Still you see the typical closure effects in successful open source projects: A close-knit core team hacking the main part of the source code, harsh criticism, because they are "among themselves" and the high suspended requirements that could never be put to work for employees. And the declared opposition, as Linux against classical operating systems like Windows, or Mozilla against the Explorer.

Conflict and Crisis

A persistent failure of today's innovation work in companies is that it is built on harmony-addiction. There is talk about teamwork and global development teams, with interlocking processes like cogwheels. But that does not create new paths. If we have created real diversity in the incubator, with talented individuals who follow a vision, it is a better sign of functioning cooperation if team members argue constantly. Innovations emerge from crises and the clash of controversy. Eric Schmidt exactly pinpoints that when he talks about innovation at Google:

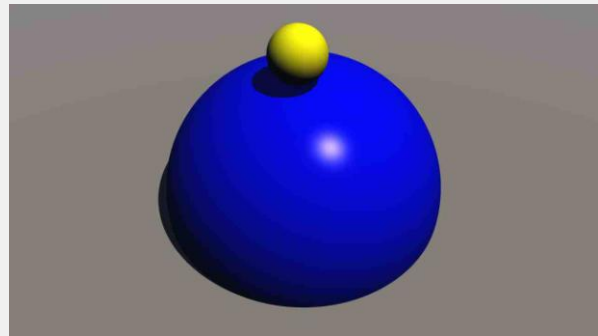
"You need two things. You have to have somebody who enforces a deadline. In a corporation, the role of a leader is often not to force the outcome, but to force execution. Literally, by having a deadline. Either by having a real crisis or creating a crisis. And a good managerial strategy is "let's create a crisis this week to get everybody through this knot hole.

And the second thing is that you have to have dissent. If you don't have dissent then you have a king. And the new model of governance is very much counter to that."

A known method using a nonconformist culture in an incubator are Skunk Works, projects which are developed in companies based on non-team players and spinners, off the normal corporate culture, but sworn in to a vision.

Crises, work beyond the comfort zone, that always have been the starting points of innovative movements. And that is related to the role of *noise*, disturbances to established systems.

Just have a look at this yellow ball as an example of an established system. Crisis seems imminent for the position at the top, it cannot last, it is unstable. But to bring things into motion, one must interfere with the ball slightly. With a bit of noise from the outside, it starts to roll down from the former equilibrium hill. To where, is still open.



We also see this creative effect of disorder in the evolution of life. "Noise provides variability that allows organisms to adapt to new situations" (Stephen Thaler). Like rolling the ball to somewhere else or change the fitness hill.

Stephen Thaler, creator of the Creativity Machine shows these relationships impressive. His neural networks were stronger in finding solutions when he repeatedly destroyed arbitrarily single cells, so to speak, introduced "death". Since then, his innovation systems always feature elements that confuse things a bit, that create a little chaos and noise. It is amazing how similar the structures of the development team at PARC and the Creativity Machine are: "The Creativity Machine has critic networks built right in. The critics select the best ideas generated by the noisy networks and reward good work. The feedback helps the network dream up even better ideas." (Thaler)

Crises and conflict in the incubator, a high hanging bar, a little noise for motion, feedback loops from criticism. But off course, there are limits to that. Even living systems only remain alive if they are not torn apart by too much chaos. Similarly, our incubator could very well remain a bunch of feuding, with no results. Is there a limit to the variety an incubator can withstand? Or is there an optimum level of diversity in a closed system? You can approach this at least with the idea that too much diversity is disruptive if communication difficulties are too great within the incubator, specifically if the effort to integrate and reconcile is too high. An optimal level of diversity would just stay under that limit.

How to start the incubator?

You start with the question. A really big unresolved question. Just one of these questions which come up repeatedly in companies or society, but which all put right back on the shelf because they do not have the slightest idea how to address it and prefer to quickly go back to the busy activities of everyday live. Even if the question is of vital importance.

Even very open-minded managers (and politicians) are afraid of the short-term dangers of large changes, more often than they appreciate the potential benefits.

"No wonder then, that the digital world is dominated by entrepreneur-types like Steve Jobs, Jeff Bezos or the Google Boys, who have built their companies from zero. Entrepreneurs tend to have a highly underdeveloped status-quo-preference, and that is an enormous advantage in disruptive change processes." (Andreas Göldi)

If you believe in true creativity, the next revolution always can come from a previously unknown small-enclosed incubator somewhere. Therefore, the mechanisms built in many laws regarding issues of competition, intending to compensate for the allegedly sustained imbalance between a mighty great and a little weak are dangerously wrong. Even today, the next power still may begin on a small scale. Konrad Zuse's computer was built in the living room of his parents, Google founded in the dormitory, developments overturning the established players in a few years and radically changing the game for everyone. Therefore, you just have to bring people who would gain from change into your incubators.

The big question, diversity, a closed system with a clear mission and clear rules of the game, this summarizes our first view of the incubator, one side of the heart of creative structures.

The Attraktor – the new Order

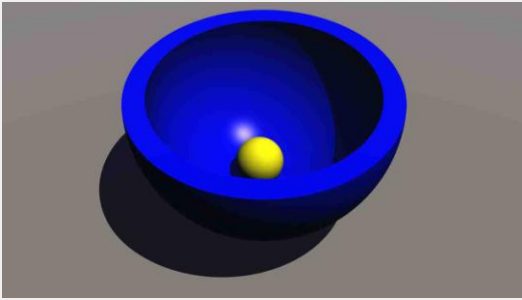
In the old model of a company now the easy part would start. The classical marketing point of view would be: "You have invented a new product? Great, then now we need to bring it to market! "And so classical marketing so far is the logical complement of innovation.

But that falls short. Genuine innovation is much more than a new product. It's a new solution, new rules of the game and very often at a very fundamental level. Hence, times of crisis are often creative times. If the old solutions and recipes no longer work, everybody is desperately looking for the new world, paths that lead into the future. They are willing to accept them, and when new solutions are presented, people suck it up like a sponge, that is, they can spread explosively.

And innovation should use such a situation to spread fast. Therefore, beside the task to bring the news to the world, it is about dragging people into the new solution, to get them to use it, build on top of it and reflect that back again into the heart of innovation.

Was it so far a committed team in the incubator that developed and lived the new solution, now everybody should be a part of this new solution. You need an approach in which the new solution radiates, attracts and starts an almost explosive cycle. The attractor.

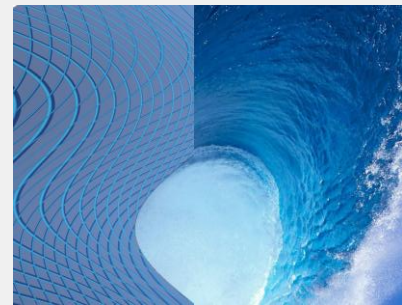
Attractor is a term from chaos- and complexity-theory. It is the structure that imposes a new order in chaotic environment.



In the simplest case, an example for "order" is our ball from the example above, but this time one that lies in a bowl. Every time you kick the ball and bring it out of its order, it rolls around a bit, but stops after a while and comes to rest again in the same place: at the deepest point of the bowl - a simple attractor.

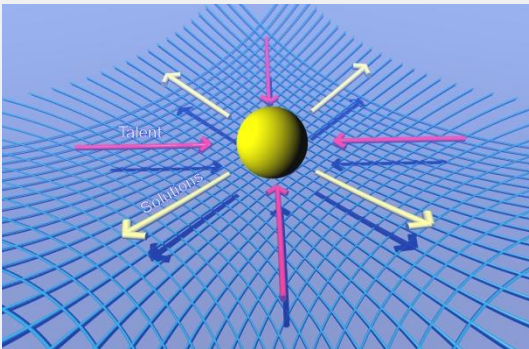
But there are also more complicated forms, e.g. vortices or waves. They consist of millions of particles that move constantly and still remain in an overall shape. Also an attractor. It gives form to all small parts. A wave is actually composed only of water molecules, but the wave gives them form and direction.

It gets really fascinating when existing orders dissolve. A bowl with a ball with time morphs into a hill, where the ball at the top is far from stable. If pushed, the previous solution is broken, and it rolls until left in the deepest point of the next valley. A new attractor is found. The same in business or in society, where approaches, ideas or paradigms dissolve. They wander from one attractor to another.



Innovators as creative hotspots now do not wish that the ball just goes somewhere into a new form, but exactly into the form their Incubator has created as new solution.

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The attractor in creativity thus is the structure, the players, the organization that with their new approaches, ideas, technologies give the world around them a new shape. People use the approaches, experiment with them, spread them. They evolve them, and return that knowledge. They flock to the attractor, want to participate, want to see what happens there. The attractor attracts, because it represents the new solution, the new form, the new order and it spreads the creative new, because it gives the world and its details form.

Examples of an attractor in a creative context are things like the software, which conquered the world because people use them, program extensions, share it with others. It describes the shiny attractive city where people flock to "be a part", the emerging radio industry, which contributed to bring Jazz from Chicago to the world, the company for which everybody wants to work, the government where everybody asks: "How can you govern things so successfully?" It is the Mosaic browser and the World Wide Web that occur and motivate people to use them, to build web sites, provide feedback, and then download directly the next version of the browser, in an ever faster acting "virtuous circles"- as Jeff Jarvis terms it- a positive feedback loop. Again, it is advantageous to bring in people who profit from change, evangelizers, prophets, missionaries, entrepreneurs.

What was an advantage inside the incubator - the separation from "the others", their own language and place - is a disadvantage for spreading into the world. From the point of view of others, one speaks a foreign language, namely. There have to be brokers, who transfer the whole thing in many "languages", collect feedback from many, who ensure that it is tried out, chewed, adapted. In addition, that information flows back. If that does not happen, ideas and innovations are forgotten and ignored, no matter how good they are. Another product, another solution will then be the defining form.

If the attractor is not established, it will come out like in many dynamic processes. At the crucial moment, the "tipping the ball", minor differences, a bit of "noise" decide where the journey goes, the ball rolls. Its direction is nearly random, the structure used then is "historically grown".

Attractor/ Incubator – The Interplay

The incubator gives a radical new solution to an urgent, open question, the attractor trumpets the answer out into the world and invites all to give them a try and participate. Talent flows in from around the world to the place of these new findings and delivers the creative potential for the next incubator.

The performance of a creative structure like a company or a region is at its highest when it designs the interaction of an incubator or incubators with an attractor in a permanent cycle of self-re-inventing. Constantly integrating extreme diversity, transforming it into new solutions in incubators and being networked in the highest degree with the world as an attractor. Places like Hollywood or Silicon Valley have changed the world not just once, they stand as symbols for creativity, because the cycle, the interplay between an attractor and incubator continues to run forever.

If you want to arrange that intentionally you should not run out of pressing questions, you should have antennae for the "open spots" of people. Then put the diverse talent that flows into your attractor repeatedly in incubators with a "mission". And provide for rapid prototyping and rapid experimentation on a global scale.

Incubator:

- Invents radical new solutions
- Closed
- shelter against the normal
- Bundles diversity
- Big, demanding questions
- Own culture
- Intense group dynamics

Attractor:

- Symbolizes new approach
- Spreads Solutions
- Lets many work with the solutions
- Attracts Talent

The Combination:

- Continuous self-re-inventing
- Sustainable influence for topics or branches

Networks and the lever of innovation

If incubator and attractor make up the heart of creative structures, what then is the effect of digitalization and networks for creative development? What impact do concepts such as open innovation, Crowdsourcing, etc. have?

First, it must be said that we generally underestimate the impact of innovation processes. We focus on things that can be achieved through consistency, change is regarded as an exception, and we believe things like the growth opportunities of a country are especially related to how many children their inhabitants get. Creativity and innovation in this view are only factors that contribute to productivity. In my opinion, they have been the main driving forces since the start of biological evolution. To deal with them thus is an imperative. Because change occurs by itself, but we do not know whether it is the one we want.

So if our further way is existentially related to the topic of innovation, a topic so influential for economy and society like the digitalization should reflect this. With the Attractor-Incubator-Approach, we can also analyze this quiet impressively. Because networking accelerates two core components of the model. First, the clash of diversity. Metcalf's law states that a network becomes more valuable for each participant with a growing number of participants. Sure, because you can potentially interact with more other participants. Thus, just by the sheer number of opportunities, "Ideas having sex" is increased lastingly. More and more people who were previously not connected to each other with more opinions and ideas can create new combinations.

On the other hand, the possibilities of the attractor will be improved to spread solutions and ask people to play with them. The "viral videos" are an example of this explosive proliferation pathway. And when Timothy Ferris for his experiments with diet distributes ideas over Twitter and thousands of people hand him back their experiences short-term, that clearly demonstrate the approach of an attractor to achieve suction and use the world as a co-developer.

The digital world is a paradise for creative processes and for the people who know how to use them.

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