The nature of entrepreneur-environment relations – A participant reconstruction perspective

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Tracking, comparing and relating entrepreneurial success pathways have revealed some surprising empirical patterns which run counter to the predictions of both the environmental deterministic theories and the strategic choice perspective. Instead of observing environmental selection, or selection of environment, we discovered successful patterns of environmental reconstruction. The difficulty of encompassing this vast human possibility space into existing frameworks has led to a rethinking of our received views on the nature of environment, the nature of the entrepreneurial actor, and the nature of the relationship between the two. These empirical patterns, gathered from over eighty entrepreneurs across ten industries through longitudinal and comparative field studies, collectively cohere to form a distinctive entrepreneurial universe. To explain these patterns, an alternative viewpoint has to be advanced, here labeled as the participant reconstruction perspective. In the interest of expositional economy, this paper will only contrast this new theoretical position with that of its diametrical opposite, the population ecology model. Two major empirical patterns under-grid the character of this entrepreneurial universe, each of which runs counter to the assumptions of the latter model. The first is on the level of evolutionary orientation. Instead of finding species adaptation to the environments, we find the adaptation of the environment to the species. The second is on the level of agency. Instead of finding entrepreneurial actors conforming passively to environmental imperatives, we find actors proactively participating in the reconstruction of environment. Within this entrepreneurial universe, entrepreneurs are found to be both organized and organizing, environments are found to be orderly, recurring yet self-transcending, and a mutually formative relation exists between the two. This paper concludes by asking why this reality has escaped the attention of the dominant knowledge building traditions.

Introduction: From environment selection, selection of environment to environment reconstruction

The boundaries of academic debates over the relationship between organizations and environments have largely been contained within the two poles of whether environment selects us or whether we select environment, or whether we have both (Child 1998). In comparison the relationship between entrepreneur and environment has received much less attention in the field of entrepreneurship. One notable exception to that is that of the population ecology model. Within this theory the role of the environment has been accorded deterministic influence, and the role of entrepreneur is to fit in, to conform or be selected out. Within this school the prospect of exercising strategic choice is seen as suspect, the emergence of innovations, as fortuitous. The ground for making such a knowledge claim has been based on the variation, selection and retention model, a model originally formulated to explain patterns observed from collective behavior in biological populations. Lodged at a population level, and observed from afar, it is a research orientation that has been extended to study the chances of survival and growth of entrepreneurs and organizations (Aldrich 1979). In this paper, we are going to re-examine this theory in the light of the new evidence, and to make sense of our empirical data in terms of the environment select and select environment continuum. Our empirical evidence has charted a vast human possibility space that

turns out to fall exactly outside this continuum. Instead of observing environmental selection, or selection of environment, we discover diverse patterns of successful environmental reconstruction. Because the existence, structure and functioning of this additional zone of empirical universe falls outside the exploratory and explanatory embrace of both paradigms, a separate scheme of explanation is called for.

Alternative research orientation leading to alternative view of entrepreneur-environment relation

Since 1988, an ongoing field research program on the nature of entrepreneurial work has been launched within the University of Hong Kong to explore into the determinants of diverse entrepreneurial success patterns. Housed within a Chinese Management Research Center, the original intent of the research program was to uncover cross-cultural variability in organizations, but that path of exploration was soon detracted by the discovery of an anomaly. This program has since been guided by curiosity. The curiosity is about how and why entrepreneur could become so successful in such a variety of ways.

As a researcher with a practitioner background, his primary discontent was with the pervasive lack of useful theories that could guide entrepreneurship. Out of this discontentment, the overall research strategy was obvious. The way to eliminate the theory-practice gap is to build theories grounded on field study on business success. But to get at the secrets of business success requires skillful access to highly confidential information and closely guarded thoughts. To do that required infinite patience and competence for long-term association with entrepreneurs. A unique opportunity to study a population of entrepreneurs in action over substantial period of time was captured.

Over the years, over eighty entrepreneurs, sampled according to entrepreneurial types, and selected from across ten industries, have been studied longitudinally and comparatively. A huge database of entrepreneurial success patterns have been gathered to identify those patterns that have worked, how these patterns worked and why they have worked. Distilled from this huge database, a grounded theory, labeled the achieved re-configuration hypothesis, is being proposed to explain these entrepreneurial success patterns. This paper covers a sub-theme that contributes to that larger explanation.

Because our research orientation has zoomed into the layer of the success patterns of entrepreneurial actors rather than on the level of survival and growth of entire populations, what has emerged is a completely different picture of reality from those painted by the population ecologists. In fact, when we pool the data about these actors together back in for population level analysis, an alternative form of evolution, beyond that of the Darwinian imprint, began to stare in the face. Within this universe it is the entrepreneur who will act as the evolutionary agent, not the environment. Whereas population ecologists see evolution as specie adaptation to the environment, we see evolution as environment adapting to specie. It sees the central role of entrepreneur as a participant in the ongoing reconstruction of the environments, rather than that of conforming and fitting in, as the population ecologist would have led us to believe.

Research method and empirical procedure

What set the HKU research orientation on a separate path from most contemporary entrepreneurship researchers from the beginning is a conscious shift away from focusing on the entrepreneurial person to that of entrepreneurial task. To try to understand how entrepreneurs achieved spectacular performance I have adopted field observation methods involving long-term association with entrepreneurs to observe, interview and examine using documentary evidences. To cultivate access and longitudinal association, the researcher has capitalized on the high concentration of the entrepreneurial specie within Hong Kong, and on his committee membership within an exclusive entrepreneurial club with participants drawn from a board spectrum of industries.

As the research progressed down the years, it become obvious that there are similar but limited entrepreneurial success patterns across industries. A total of only eight generic types could be identified, plus combination and permutation possibilities. To test some of the earlier hypotheses, and to establish comparative insights, eight entrepreneurs per industry are selected for detailed study. A total of more than eighty entrepreneurs, drawn from ten industries have now been intensely researched on.

What emerged from this new line of research?

What comes out of this line of research is a relatively unique database. In effect, it is a database that attempts to capture all the conceivable forms of entrepreneurial success patterns.

Fragments of pattern discovery have emerged every now and then, through strings of aha experience. An overall image only emerged after extensive period of interacting with the data and breathing with the entrepreneurial subjects.

What emerged out of this line of research is a radically different image of reality from that advanced by the population ecology model. Our emphasis on task has led to the discovery of a hugely inter-connected and inter-related structure of entrepreneurial success patterns. Collectively these patterns converge into a stable, systemic whole. A new evolutionary possibility has revealed its presence. From this holistic insight one begins to understand through what vehicles and mechanisms entrepreneurs produce evolutionary impacts. The proactive force in evolutionary influence has been relocated: from environment to the entrepreneur. It is out of this new finding that we begin to know what exactly a proactive – instead of conforming and passive – entrepreneurial relation to environment really means. Further details of these discoveries will be expanded below.

A brief overview of the empirical patterns uncovered

Space limitation in this paper will prohibit very detailed display of field findings.

What I intend to do is to introduce some of the discovery milestones so that the empirical base for the new perspective could first be grasped. They will also provide the

necessary backdrop against which we could discuss how this new evidence could allow us to modify our conventional view of entrepreneur-environment relation.

1. The discovery of entrepreneurial success patterns. The processes of becoming successful are remarkably similar in form, despite the bewildering variety in substantive contents. An ideal-typical sequence of formula search, formula realization, and formula replication exist for all the entrepreneurs in the sample. The formula realization point is defined as a point of business breakthrough, when the actors are suddenly awash with exceptional profit. It could also be seen as a point of confirmation that an ordinary SME owner, through engaging in some form of innovation, has successfully went through the process of metamorphosis to engage in entrepreneurship.
2. The discovery of diverse patterns of success within the same industry. This refers to different formula types that co-exist within the same industry, suggesting that there is no one best way to entrepreneurship.
3. The discovery of similar patterns of success across industries.
4. The discovery of limited types of success patterns. Allowing for the possibility of combination and permutation of these generic types in anyone actor, a total of eight have exhausted the success possibility space. These types are labeled as product innovation route, process innovation route, sourcing innovation route, distribution innovation route, establishment symbiosis route, market forces leveraging route, establishment-market divergence route, and resource redeployment and re-configuration route. Each type could be conceived in terms of a configuration of dimensions.
5. The discovery of inter-relation between these types, so that they form value chains relations, mutually compensating relations, renewal and synergetic relations, symbiotic relations, and mutually leveraging relations. Entrepreneurial success pathways converge into limited but inter-related types, hinting at the existence of a hidden order and self-organizing system. Contrary to accepted wisdom, entrepreneurs are organized.
6. The discovery of inter-generational evolutionary lineages within each types, and strings of inter-connected creative-destruction episodes over time and space. This hints at the existence of an evolutionary order that is socially constructed and continually reconstructed, with the entrepreneurs functioning as the key evolutionary agents. A specie-centric entrepreneurial system has been found to exist. This specie-centric system is found to issue in recurring way eight types of self-serving, specie-enhancing challenges over time and space, and entrepreneurs are called upon to respond with corresponding type-specific innovative solutions. An entrepreneurial system could be reconceived as an evolving challenge and response system.
7. The mechanisms and vehicles for multiplying entrepreneurial impact could now be isolated on a type-to-type basis. With each entrepreneurial types married to its respective profit logic, each achievable only within certain configuration of forces, a new way of understanding entrepreneurial wealth creation emerged. In the light of these findings, a shift from a person-focused to task-focused explanation has been made possible. The secret of business success is to be sought by asking *what do entrepreneurs do*, not from who they are.

The question is, how can we explain these patterns?

Towards a new way of understanding entrepreneur-environment relation

Reflecting on the above empirical patterns, it seems clear that a vast human possibility space has fallen outside the exploratory and explanatory scope of both the population ecology and strategic choice traditions. We have considered populations conforming to environmental needs, we have considered agents selecting the most favorable of environments, but changing them?

If the previous empirical patterns are representative of the wider entrepreneurial population, then there is reason to believe that much of the legendary power of entrepreneurs might not have been derived from forcefulness of personality but might have been derived from the forces of the system. And with the help of a new perspective we might begin to demystify them and to penetrate behind the veneer. We might be able to see with what mechanism, through what type of vehicles and under what conditions could entrepreneur reconstruct the environment.

As we follow this hunch to inter-relate the patterns, an image of an entrepreneurial universe that is subjected to distinctive evolutionary logic has emerged. This logic actually functions in ways quite beyond the current comprehension of existing paradigms on entrepreneur-environment relations.

Once this underlying logic that permeates all our cases has been identified, a new way of re-structure our view on the nature of entrepreneur environment relations presents itself. We begin to see entrepreneur as evolutionary agent, and they function within evolutionary textures. The central task of entrepreneur is to enact the next evolutionary step.

A new perspective is born

In the following, we will try to present a brief outline of this new perspective, now labeled as participant reconstruction. In the interest of communication, the findings are presented here in a sequence that zooms from the big picture down to the micro level, whereas the actual sequence of discovery was from the ground, with the big picture appearing at the very end.

By zooming in first from wide-angle vision before we direct our focus to the agency level, we hope we could unpeel the layers and layers of environments in which entrepreneurial work is embedded. On at least three levels we have so far discovered patterns that seems to significantly departure from the conceptual space of the population ecologists as well as strategic choice theorists.

- The first is on the specie evolution level.
- The second is on the population's environment level.
- The third is on the entrepreneurial actor level.

We will deal with these one by one in the following.

1) At the species evolution level, we have discovered patterns that points to diametrically opposite direction of fit

The population ecology model has hypothesized evolution as species moving towards a better fit with the environment. What we have uncovered from our studies are patterns that completely reverse such a direction of evolution. We see a relentless tendency for us to reconstruct environments so that they could better fit in with the needs of the human species. One famous observer of the human condition has echo our findings very well. He recently wrote about our collective tendency to reconstruct environment through the creation of lots and lots of man-made systems, which to him represent "an astonishing variegated mosaic of overlapping and fragmented realities".

"These realities have one thing in common: they are all extensions of our egos; in other words, nearly everything we do and create through capitalism is made to the measure of our human needs and aspirations". "The apex of this achievement is the postmodern capitalist city. We design our cities to block out the intrusions and fluctuations of the natural world…The past century's countless incremental changes in our societies around the planet, in our technologies and our interactions with our natural environments, have accumulated to create a qualitatively new world" (Homer Dixon 2001, p.6).

And we discover that with the increasing spread of market arrangements everywhere it is the entrepreneurs who are being increasingly being called upon to effectuate this kind of incremental human environmental reconstruction. If it is in the wishes of the human species to fly, the entrepreneurs will build the aircrafts, rather than waiting for the human body to develop wings. If it is in the interest of the human species to hop from one island to the other, the entrepreneur will build bridges, or boats, or hydrofoil, instead of waiting for the human body to evolve fins.

From this angle, one could argue for the existence of two different paths of evolution: one relates to our creature-like evolution, the other relates to the human environment evolution. Once the first aircraft has been invented, it is the evolution path of the aircraft that will outstrip our creaturely evolution path of the human species. Generation after generation of aircraft entrepreneurs will participate in furthering this evolutionary trial through their creative destruction efforts, enabling us to fly further, faster, cheaper, saver, easier etc. in the air. In this sense, the flying environment for human specie could be seen as unceasingly been reconstructed. The same logic applies to other fields of human endeavor, be it our food environments, our tool environments, our news environments, or even our natural environments.

The environmental selection metaphor had originated from observing biological systems, not from observing human systems. The respective directionality and logic of evolution actually differs quite dramatically. This makes the Darwinian metaphor quite ill equipped for the interpretation of our evolutionary relation with environment.

2) At the population level we have discovered enduring structure of species needs and the eight types of environment reconstruction work entrepreneurs are called upon to do

On the basis of our empirical patterns discovered, we advanced a hypothesis above that the overall tendency is for the human being to alter environments to fit their needs, rather than the other way round. The next logical step in our exploration would be to find a way to understand the evolving need structure of the human species to which the entrepreneurs would have to continuously reconstruct the environments to fit in. There are of course countless interpretations from the academic world on what our human societies really need. In our research we will ignore these academic interpretations, and instead try to understand species needs from those entrepreneurs who have successfully created business empires to serve these needs on a long term and pervasive basis. We would for example ask the following question when we examine our database:

"At this moment, accordingly to one report, there are roughly 47000 workers within Mainland China who are working day in day out to produce fashion under contract for the label of Ralph Lauren Polo. His fashion collections now sell to most countries under the sun. What does Ralph Lauren knows about human nature to be able to capture the imagination and their wallets through his design?"

The same type of question could be asked of all entrepreneurs, Philip Knight of Nike, Akio Morita of Sony, or any other that comes to mind.

"How did Coco Channel saw the rebelliousness in the female population to be able to stage a fashion revolution when the dominant convention was so uptight?"

The question for entrepreneurial researcher on this exploration trail is: Do these entrepreneurs know something about human nature that the academic world does not know?

The strategy adopted is for the most successful entrepreneurs to teach us about the evolving needs of the human species. Our argument for pursuing this route is as follows:

This reversal in the direction of fit has entailed some interesting hypotheses for entrepreneur-environment relations:

1. The universe within which entrepreneurs are working could be regarded as a species-centric system. It is an expansive universe that revolves and evolves around the needs of the human species, and not around the needs of the natural environment.
2. The criterion of fit within this universe is self-referential. Variation, selection and retention processes are conducted in the interest of man, to the measure of man, for man, by man.
3. The market has recently emerged as the dominant mechanism around which these self-referential processes are to be conducted. The mutual-feeding, reciprocal-breeding, and symbiosis-enhancing relation between market mechanism and entrepreneurs has become increasingly pivotal in this expansive universe. Within this context, the entrepreneur is becoming a privileged agency for evolutionary reconstruction.

They need to know about their evolving needs in order that they could reconstruct the species environment and be rewarded.

If the center of the entrepreneurial universe now seats the human species, how can we know more about its needs structure? It is in the interest of the entrepreneurs to know, their survival and prosperity depends on such knowledge.

Procedure for deciphering the needs structure have followed the logic listed below.

1. Because this is a self-referential system, what the server can offer and what the served could acquire are mediated through the transactional mechanism. The server could make a killing through correctly interpreting the evolving and pervasive species needs and offers their innovative responses in ways that could address those needs. The served will vote through the exercise of purchasing power to those offers that satisfy their needs. In other words, the served are telling us what their real species needs are through paying for them. The conditions for entrepreneurs to secure huge rewards are two. One, correctly decipher the riddle of the evolving specie needs. Second, innovatively respond to these needs based on upon such interpretations. That only very few have achieved spectacular business success testifies to the difficulty of doing both well.
2. Our sample of entrepreneurs has included only those who have been hugely rewarded through exceptional profit. Therefore how these entrepreneurs have come to learn about the evolving species needs and what these entrepreneurs were innovating on based on such understanding provide a badly needed clue to the academic world about what the evolving species needs are likely to be.
3. When we pool the interpretative orientations of these entrepreneurs together, we find that their understanding of our species environments fall into limited forms. In other words, only eight ways of interpreting our evolving specie needs had been found to be rewarded.
4. When we sort their innovation responses one by one we also find them falling into limited forms. In other words, only eight types of innovative responses will be rewarded.
5. Each form of innovation could be correlated to a particular type of profit logic. All together there are eight types of profit logics. Innovative response has to be translated into some form so that it could be transacted, as a result that would impose a logical limit to the ways exceptional profit could be obtained legally.
6. If we label the evolving species needs structure as a challenge environment for the entrepreneurs, then we could also label their innovative offers as constituting the response environment to the species. Thus we could picture the environments for the entrepreneurs as falling into eight matching pairs, as eight types of challenge and response systems.
7. Quite by accident, when we move beyond our field study sample in search of a historical backdrop to see how these current response systems have evolved, we found that we could trace uninterrupted lineages of creative destruction episodes. This means that in each industry there are multiple traditions of anti-traditions. This also means that within types there are multiple lineages of creative destruction. This finding has turned out to be rather counter-intuitive. The fundamental challenges in our

specie environment have remained rather similar and stable over generations. People have always wanted variety, they have always wanted affordability, they have always wanted accessibility, they have always demanded availability etc. The complexity and sophistication of entrepreneurial response might have changed, but not the forms of challenge. The bookshop on the village corner founded one hundred years ago, the likes of Barnes and Nobel founded decades ago, and the likes of Amazon.com founded a few years ago, are all trying to solve the same form of challenge: the book accessibility problem. They are in their respective historical periods distribution innovators. The accessibility challenge is related to those types of situations like the following. In this particular location we can find this type of valuable things, how do I make sure that people in the rest of the world who needs this would have access to this as well? Stemming from such simple question streams of innovations have sprawled our specie's evolution. We have seen how IKEA, Home Depot, Macy, Toy'r'us, Mitsukoshi, Boots etc. rose to the challenge. If we move another type we see the same. We could for example back-trace the lineage of Micheal Milken, to Goldsmith, and all the way to Jim Slater, in their respective time and place they seeks innovative ways to re-deploy and reconfigure underutilized and trapped resources. Again we see creative destruction lineage in response to recurring needs. We thus hit upon a way to nail down the specie need structure over time and space.

Diagram 1 outlines an example describing one lineage of creative destruction episodes. It is related to entrepreneurs pursuing the sourcing innovation routes. This type of entrepreneur are concerned with developing innovative ways to harnessing mother nature so that they could be available in forms and quantities that accord to human species needs.

In this case, we looked at the evolution of pearl extraction.

In the first layer of lineage, we examine the diving for pearl in the Persian Gulf. This form of barehanded diving through seafaring expedition has lasted for centuries, and is now a dying breed. Getting pearl through diving for oysters in Bahrain is brutal work for the divers, and miserable for the oysters. Divers suffer from decompression sickness, color blindness and shark bites. Using that method, about 500 oysters need to be slaughtered in order to get one pearl. To stitch together a necklace with strings of pearls in the old days easily requires the killing of million of oysters.

The second layer innovation has focused on reducing the casualties of the divers, and the invention of the diving equipments allow the pearl divers to stay down the waters for extended period. The net result was the ease of extraction but oysters were almost driven to extinction.

The third layer witnessed the entry of Mikimoto, a Japanese entrepreneur who tried for over 15 years of unceasing experimentation to tease out why oyster produces pearl. Hundreds of experiments later, Mikimoto finally inserted something into the oyster shells that they would reject. The method of culturing pearl was born. Mikimoto has a world monopoly for decades through the guarding of that method. He had successfully turned oysters into his workers. He had successfully find a way to harness the power of nature for satisfaction of our specie need. And to produce one pearl we only need to slay one oyster.

The fourth layer we see the entry into the scene by another entrepreneur, Nick Paspaley. The culturing method of Mikimoto was transplanted to a bay in the North of Australia intended for one of the largest oyster types in the world, with disastrous results. Oysters living under Mikimoto farming conditions were dying in huge numbers and those that survived produced inferior pearls. Forced to find a solution, Nick accidentally compared the living conditions of oysters in the wild versus those living in the farm and saw the dramatic difference in vitality. He spent ten years to work out a method of culturing pearl in open seas, a type of pearl farming that approximate natural conditions. This company is now one of the most successful pearl companies in the world today, with each oyster now capable of yielding four king-sized pearls in the course of its life.

In the above example one could see the lineage of creative destruction within one particular industry, and within one type. Our database is full of various kinds of lineages across industries and types, links we have managed to establish through backward and forward tracing. As our research moves up and down through these creative destruction ladders, it dawn on us that one significant chunk of entrepreneurial work actually resides in between the evolutionary ladders. In other words, in the context of evolution, it is important for us to ask*: where do entrepreneurs work?* Where entrepreneurs work is the space between two innovation paradigms in the evolutionary chain, one that they reject as conventional, and the other they have visualize and participate in building. In contrast, most managers work within paradigm, elaborating and perfecting the structure of routines established by entrepreneurs.

When these findings are put together, we could see that there are eight patterns of challenge and response, and each type of challenge and response within the system has evolved through lineages over time and space. There are surprising inter-connection and inter-relation across the full spectrum of entrepreneurial work. Horizontally, these types could be dynamically inter-related into value chains, into compensating relations, into synergetic relations, into symbiotic relations, into mutually leveraging relations etc. Historically they could be inter-related through multiple lineages of creative-destruction. The entrepreneurial universe is in fact orderly in terms of how it organizes the division of entrepreneurial work, recurring in terms of the forms of challenges and constantly self-transcending through waves after waves of creative destruction responses.

We have discovered a way to reveal what the human species really needs. It is by making use of the super sensitivity of the entrepreneur to smell out what the specie really want and made a success out of it. Where we get the clue is what they need have to be satisfied increasingly through the transactional mechanism. And their shifting needs is tightly coupled to the waves of advance and demise of the entrepreneurs.

The end result of this exercise is encapsulated in the next diagram (diagram 2), which displays the contextual foundation for a typological theory of entrepreneurship.
Sourcing innovation route (the evolution of methods (from 1 to 4) for harnessing mother nature so that it become available in forms and quantities that fit in human species need).

1) Pearl Diving in Bahrain

Divers to jump into open sea to pick up oysters, pairing with pullers on board with strings to retrieve them when the divers are out of breath. Yield: killing about 500 oysters for one small pearl.

2) Innovation of Diving Equipment with Oxygen Supply

Greatly increased the number of oysters that could be picked per diver. Yield: similar to above because pearls is a product of accidental insertion of foreign object into the shells of oysters. But oysters were almost driven to extinction because of this innovation.

3) Mikimoto in Japan

Some fifteen years of research and experimentation had led to the cultured pearl method. Yield: one oyster for one rounded cultured pearl.

4) Paspaley Pearl Company in Australia

Because of the failure to transplant Mikimoto method to the Australian oysters, Nick Paspaley innovated with an open sea culturing method. Yield: 4 king-size pearls for one oyster.

Diagram 1: An example of a creative destruction lineage

Types of challenge	*Transaction domain*	*Types of response*
The variety generation challenge		Product/service innovation route
The affordability challenge		Process innovation route
The availability challenge		Sourcing innovation route
The accessibility challenge		Distribution innovation route
The coupling challenge		Establishment symbiosis route
The value fluctuation challenge		Leveraging market forces route
The underperformence challenge route		Redeployment & Reconfiguration route
The unevenness challenge		Leveraging state-market difference route

Note: There is a need for typological understanding because each matching pair of challenge and response involves a unique configuration of variables, and entrepreneurial success is premised upon concentrating on the right set of variables while ignoring others.

Diagramm 2: The entrepreneurial universe conceived as a challenge and response system mediated through the transaction mechanism

At the agency level we have discovered multiple forms through which entrepreneurs reconstruct environment to fit in with evolving species needs

In the following we will first introduce a multi-purpose conceptual apparatus specially designed for use in synthesizing our field research findings into visual forms. One of its possible uses would be to relate our typological change agents to the entrepreneurial environments by picturing them in interaction over the course of a typical creative destruction journey. This diagrammatic tool is built from abstracting the core processes that typifies our business success trajectories in the sample.

The inspiration for designing this conceptual apparatus has come from Mintzberg. In his 1979 book, Mintzberg wrestled with the problem of how to present in a succinct form the full complexity and variety of organization structures. He stroke on the idea

that all organizations could be conceived as composed of five basic parts, and proceeded to use the now famous logo as a base on which to overlay other discoveries. With these five basic parts on the background, variations and complexities could be captured and displayed in the foreground layer by layer. He would work out five typological possibilities as variation from this basic form. He would try to understand the complex relations that might exist between parts and key processes that take place within and across parts. Coming back after all the synthesizing, analyzing and comparing, he discovered five basic organization structures. In this research we have followed the same knowledge building and communication strategy.

The procedures we have followed to design this tool were:

1. Firstly we need to ascertain the essence of the nature of entrepreneurial work.

From our perspective, work defines the entrepreneur and the type of work defines the type of entrepreneur. Despite the typological diversity, we have uncovered a unifying theme. To become successful, we find that all our entrepreneurs have to conduct creative destruction exercise of one form or the other. There are a total of eight forms of creative destruction, corresponding to the eight types of challenges and responses identified above.

2. Secondly we need to find way to represent the environment from the angle of creative destruction process.

To do that we need to find a way to integrate the relevant task environments at different stages of the creative destruction process, how the evolutionary agency work has emerge and come to fruition, and how in the course of achieving wealth the environment got changed.

Two types of environments need to be represented, those before change and those after change. As described in the above we have already discovered the evolutionary texture of entrepreneurial environment, and this could be represented by the challenge and response system. We also know that the central mechanism through with entrepreneur effect the change in environment is through transaction. So a total of five task-related environmental domains could be included. We have the before and after challenge domains, the before and after response domains and the transactional domain which link all the rest together into one inter-related piece. With these five clustered into one visual, the multi-dimensional relationships between these five domains, the multiple processes that could be done within each domain and across multiple domain could then be studied in detail.

3. Thirdly we need to find way to represent the entrepreneurial agency in interactive relationship with these different environmental domains.

What is to be represented depends on what we found to be typical across our typological studies. What unifies the whole spectrum of typological passages are two pivotal mental shifts that together trigger off a metamorphosis that would transform an ordinary businessperson into a successful entrepreneur, and would at the same time transform a conventional environment into a new one. These two particular aha experience are pivotal in the sense that the mutual formation processes could not have taken place unless such possibilities were first glimpsed at. One mental shift is to do with how they see as emerging on the challenge horizon, while the other is to do with how they see

what is possible beyond the taken-for-granted within the current response horizon. Our data suggest that the realization of the first mental shift might have triggered the search for the other. Without both the transformation of the conventional challenge and response system will not take place.

The first type of mental shifts, those relating to the challenge environment, will generally take the following form. No matter what the trigger event was, there suddenly appears in the mind's eyes of the subject a new business horizon emerging, believed to be largely unseen and untapped by other existing players in the industry. When asked the subject usually reports a perception of a forthcoming shift in the challenge environment. How each person has come to define the respective challenge environment varies across the board. But upon comparison they usually visualize some sort of a convergence of forces that are beginning to crystallize into a major contextual shift. This new emerging challenge have to be so divergent from the current one that the existing response pattern could become obsolete, outdated, irrelevant or conventional. In other words, there will be an increasing lack of fit. Because the existing players are so busily engaged in responding to the challenges as identified through the previous entrepreneurial paradigm, a growing vacuum evolves. This provides a period of an open space for this potential entrepreneur to jump in and to search for a response system that would realign with the emerging challenge, thus promoting a new fit.

The second type of the mental shifts, those related to the response environment, usually unfolds in a similar sequence. Again a trigger incident happened, followed by a sudden realization of a completely new prospect of response possibility. Again the conventional players are burying deep in the trenches, busily elaborating and extending the dominant paradigm. A blind spot thus engulfed the dominant players. The conventional system is running so smoothly and so interactively that it locks the minds of the dominant players, whose views is paradoxically constantly being validated by the feedback generated through the transaction system.

To incorporate these two realizations into the diagram we introduce a discontinuity between both the challenge and the response domains. This symbolizes that the fundamental shift from one challenge environment to another is rarely perceived, and the prospect for the transformation of the conventional response environment is seldom sought for. The role of the evolutionary agency began here.

At this juncture it is imperative that the two evolving horizons as visualized through these two mental shifts are actually in congruence with the two contextual shifts taking place in the objective world, because the entrepreneur will now be stacking his/her fortune based on these two beliefs.

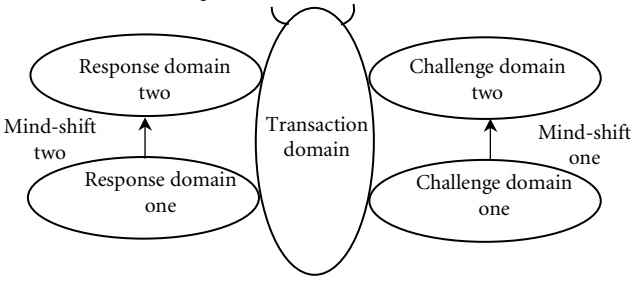
How each journey will further unfold after these mental shifts depend on the types of challenge environment the entrepreneur is dealing with and type of response system that the entrepreneur could structure at the time. That is why a typological theory is needed to enable us to tease out all the frame-breaking, boundary-crossing processes and to identify the eight configurations of variables that need to be related. Typically the entrepreneur would seek ways to align his or her innovative system to the emerging challenge environment and the two sides will co-evolve. The process will continue until this newly crafted response environment come into wide acceptance to fit into the

changed need structure of the human specie. Obviously there is bound to be a lot of hit and miss in the process, as well as quite a bit of entrepreneurial dramas in between.

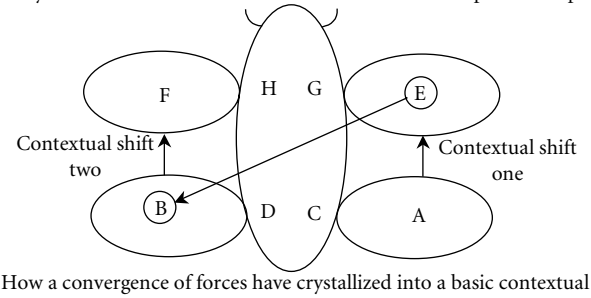
This successful meeting between the new challenge environment and the new response environment would reinforce each other until transaction becomes routine and taken-for-granted. Then another entrepreneur comes along to trigger off another creative destruction cycle. The cycle then repeats.

What the diagram has enabled us to do here is to provide a framework to capture the creative destruction process empirically, individually, typologically and within this context examine how the entrepreneur and the environment both develop into a mutually forming relationship. It falls on the shoulder of the entrepreneur to inter-relate these five environmental domains, and to participate proactively in reconstructing the response environment. In the end, the entrepreneur becomes an integral part of the new response environment. Philip Knight, for example, is now an integral part of Nike, which in turn, is an integral part of the new sport shoes environment, which in turn is part of the larger global sport movement, an increasingly universal human craving. Obviously we have so far only captured the most critical turning points through this diagram. To further capture the numerous sub-processes involved in a typical creative destruction scenario, we could make use of multiple overlays on top.

a) The entrepreneurial task-relavant environments:



b) An example of how an overlay could be used on top of the Butterfly Model to identify environmental reconstrutionc relations and entrepreneurial processes



E to B = How a convergence of forces have crystallized into a basic contextual shift (e. g. a calling for a higher level of affordability of cars), and how this emerging context, if materialized, will make the current response pattern (inefficient and high cost car production process) irrelevant, outdated, or unfit.

Diagramm 3: The Butterfly Model – Relating entrepreneurial processes to environment reconstruction

When we use this new perspective to pull together the various strands of discovery so far, we can see that:

1. Once we begin to see the evolutionary direction of human societies as species-centric, why different industries have similar types of entrepreneurs becomes explainable. For despite their respective industrial specificity, they are all feeding into the same species.
2. Once we begin to see the evolutionary direction of human societies as self-referential, why the forms of entrepreneurial challenges have remained stable and recurring becomes understandable. For despite the increasing sophistication and complexity of our response systems, they are all directly or indirectly serving our human nature.
3. Entrepreneurial success for the actor, environmental reconstruction for the species, and creative destruction in the industry, could be seen as different facets of the same phenomenon.
4. Environmental reconstruction requires a convergence of forces, with the entrepreneur playing a proactive, participatory role in the re-configuration process, and becoming an integral part of it.
5. Since success requires a coming together of forces, some of which are evolutional, some of which are contextual, it would be important for us to recognize the spatial-temporal situatedness of entrepreneurship. Using tools developed with this perspective, we might be able to empirically ask these questions:

When is entrepreneurship? and *Where is entrepreneurship?*

Our exploration of the entrepreneur-environment relationship has led to some surprising findings.

Conclusion

In this paper we have endeavored to show the fruitfulness of a new perspective that would enable us to chart a largely unmapped human possibility space. Along our path of exploration, we found that we need to invent some empirical procedures and conceptual tools to enable us to uncover some defining regularities within this space, on which we argue for the existence of a distinctive entrepreneurial universe. We have discovered that within this universe the direction of fit, as posited by population ecologists, has been reversed. With that as an anchor, we began to decipher the species-centric needs structures and the diverse routes and multiple waves of entrepreneurs undertake to respond. Since they respond by reconstructing environments for our species, we therefore looked into a typical environmental reconstruction process. We hope that through these multi-leveled examination of our findings, we could establish a case to argue that our human species not only got selected by environment, and not only select environments, they reconstruct environments to fit our needs as well.

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