Memetic Engineering – Authentic Travel International Example

Karabeg, Dino; Fürst, Karin; Hagen, Jan Egil

Abstract— *Memetic engineering is proposed as (1) a practical method for e-business design; (2) a possible way of resolving certain acute socio-cultural problems related to globalization; (3) a paradigm for multidisciplinary, interdisciplinary and transdisciplinary (MIT) research. Our Authentic Travel International project is a prototype instance of memetic engineering where e-business plays a key role. Memes are to society and culture as genes are to an ecosystem – units of inheritance and reproduction. Power interests (power structure), recently enhanced by globalization, tend to create degenerate memes (business practices, values etc. which are harmful for environment, local economies and cultures). This has recently been recognized by sociologists as a new global risk. The purpose behind memetic engineering is to reverse this negative trend by creating beneficial memes which are competitively stronger than the degenerate ones. Analogous to genetic engineering, this approach consists in finding a 'good' base meme (in our example authentic travel), and making it resilient and strong by combining suitable elements of various agile auxiliary memes (in our case e-business, franchising and value-based marketing). Since creating powerful memes requires a combination of backgrounds and skills, memetic engineering is inherently MIT;*

Index Terms—*e-business*, *interdisciplinary research*, research methodology

1. INTRODUCTION

THE coming of age of multidisciplinary, interdisciplinary and transdisciplinary (MIT) research invites us to look into its methodological foundations by asking such questions as:

- What are the main advantages of MIT research compared to conventional or *traditional* research?
- What guiding principles and criteria should be used in order to secure those advantages?
- What research methods are suitable for securing the advantages of MIT research?
- How can such research methods be developed?
- What constitutes a (fundamental) result in MIT research?

Furthermore, two well-documented problems invite us to reassess our *traditional* assumptions about the meaning and purpose of research in general and the criteria and values which follow from those assumptions.

The first problem is that the idea of research as discovery of unknown fragments of reality, which are made accessible to us through 'scientific method,' has been successfully and systematically challenged. As philosopher Stephen Toulmin recently observed: "Eighty or ninety years ago, scholars and critics, as much as natural scientists, shared a common confidence in their established procedures. […] How little of their confidence remains today! Among some humanists, the phrase "scientific method" is even pronounced with a sarcastic or ironic tone[.]"[1]

The second problem is that the belief in 'progress' understood as the advancement of science and technology, which has motivated much of academic research and which was the characteristic general mood a century ago, is now on the decline as the risks which have emerged as side effects of such progress have become more obvious [2]. This change of mood has lately been aggravated by new risks brought by economic globalization, which has unleashed the destructive tendencies of global capitalism that were earlier held in check by traditionally local regulations [3,4]. As sociologist Manuel Castells diagnosed, "The outcome of this process of financial globalization may be that we have created an Automaton, at the core of our economies, decisively conditioning our lives. Humankind's nightmare of seeing our machines taking control of our world seems on the edge of becoming reality – not in the form of robots that eliminate jobs or government computers that police our lives, but as an electronically based system of financial transactions." [5] In the light of this development, not only genetic engineering, but also e-business may contribute to global risks.

Our main general point will be that if instead of

Manuscript received July 12, 2005.

D. Karabeg and J. E. Hagen are with the Institute for Informatics, University of Oslo, Norway (e-mail: dino@ifi.uio.no and janha@ifi.uio.no). K. Fürst is with Authenticore, Norway (e-mail: kf@authenticore.no).

Manuscript received July 12, 2005.

K. Fürst is with Authenticore, Norway (e-mail: kf@authenticore.no). D. Karabeg is with the Institute for Informatics, University of Oslo, Norway (e-mail: dino@ifi.uio.no).

following the *traditional* patterns we allow ourselves to innovate or *design,* **we may be able to give impetus to another kind of research leading to another kind of progress**.

We outline a concrete case, which is a *designed* research paradigm we are calling *memetic engineering,* and we observe it in action. We then draw answers to the above questions from this experiment.

We use the word 'paradigm' as a technical term, in a similar way as it was introduced into philosophy of science by Thomas Kuhn [6]. As this word is used here, a paradigm includes a certain way of looking at the world, certain (research) goals, value criteria, methods and a certain kind of results.

The rest of the article is organized as follows. Section 2 is a general introduction to the *memetic engineering* paradigm, where we outline the *memetic* view of contemporary global condition and introduce *memetic engineering* as a way to orient MIT research in general, and e-business research in particular, towards finding solutions. Section 3 is an example of *memetic engineering* in practice. We describe our Authentic Travel International (ATI) research project, which shows how *memetic engineering* might be applied to engineer a global business which may contribute to environmental, economic and cultural preservation and renewal. In Section 4 we sketch a general model of *memetic engineering* by abstracting from the ATI example. In the Conclusion we use our *memetic engineering* and ATI project examples to draw clear-cut and perhaps surprising general answers to the above questions.

We use *information design* as defined within the Polyscopic Modeling methodology [7] as method. The main point in Polyscopic Modeling is the ways we look at things (or *scopes*) are consciously *designed,* so that we may communicate what is essential or hidden. *Scope design* allows us to rise beyond the limitations of our *traditional* language.

2. MEMES AND MEMETIC ENGINEERING

In this section we define the *meme,* the *memetic engineering* and several other concepts which will allow us to give a concise and clear *high-level* or general view of our theme.

We begin by outlining the Polyscopic Modeling way of defining concepts.

A. Designed Definitions

There are two distinctly different ways of defining concepts. We may try to pinpoint what the concept 'really means' or to capture its *traditional* meaning. Alternatively, we may *design* the concept [8]. When we *design* the concept *x*, we ascribe a certain meaning *y* to it. We are not saying '*x* really is *y*,' but creating a convention: 'When within the given context we say *x*, we mean *y*.'

The *designed* definition may be thought of as something like a scientific instrument, which the author gives to the reader in order to facilitate communication and make it precise. If by 'looking through' the defined concept the reader sees what the author claims, the communication is considered as successful.

A *designed* definition is useful if it allows us to see something essential which is habitually ignored or to explain certain phenomena in simple and clear ways.

We italicize the *designed* concepts in order to distinguish them from others. We use the *designed* concepts without explicit definition when we expect that the intended meaning is sufficiently clear from the context.

A textbook example of concept *design* is the definition of *culture* as '*cultivation* of well-being' [9]. This way of defining 'culture' stands in sharp contrast with the *traditional* definitions, which, as Zygmunt Bauman observed, are so divergent that they can no longer be reconciled with one another [10].

Designed in this way, *culture* is not a thing but an *aspect* of very many things. Arts, lifestyle patterns, education, technology, science and whatever else may affect our well-being belongs to *culture.*

B. Definition of 'Meme'

We define *meme* as 'a unit of cultural inheritance and reproduction'. *Memes* are to a *culture* as genes are to an ecosystem. *Memes* may be values, ideas, lifestyle patterns, ways of doing business or anything else within a *culture* which can be inherited or reproduced.

The concept 'meme' has been introduced into science by Richard Dawkins [11] and used by researchers subsequently in similar ways as we do (see, for example [12]). The *meme* allows us to apply to *culture* the way of thinking and the insights which were developed through studies of genetic evolution in various research fields such as ecology, stochastic optimization, artificial life and complexity theory. The main insight is that evolution can create *memes* which are favorable with respect to a certain 'optimality' or 'survival' criterion.

The conveyer belt and franchising are familiar examples of agile business *memes,* which have at a certain point in history (when the conditions were favorable) reproduced and proliferated quickly and made a large impact on the way we work, travel and eat, and on the kind of things we use.

C. Tradition as Cultural Evolution

Tradition is defined as spontaneous evolution in *culture.* In a *traditional culture,* the *culture* as a whole as well as its *memes* evolve spontaneously, through trial-and-error and survival of the fittest.

When we look through the concept of *tradition* we see *cultures* and *memes* within *cultures*

competing with each other. Only the fittest ones survive. According to this view, *cultural* evolution is a direct continuation of natural evolution.

This view allows us to explain the origin and the purpose of the *memes* which characterize real-life traditional cultures. For example, the characteristic respect and obedience towards the ways of the ancestors may be understood as the *meme* which the *traditional cultures* needed to develop in order to secure *meme* inheritance.

D. Culture After Tradition

Sociologists claim that we are no longer living in a tradition [13]. Indeed, our global *modern culture* can no longer be seen as many small *traditional cultures* competing with one another. Furthermore, *modern culture* is changing too rapidly for its *memes* to be tested through generations and use and considered as good and safe. Often for good reasons, we less and less respect and obey the ways of our ancestors. Therefore we can no longer assume that our *modern culture* is still able to evolve as *tradition*. The question remains – In what way does our *culture* evolve?

While we can not expect that our *memes* will spontaneously evolve as it suits our well-being, we *should* expect that they evolve in the way which maximizes their chance of survival on the global market of goods and ideas. The *memes* which determine our values, lifestyle, institutions etc. may now be changing as it suits power interests.

This view can be made more accurate by introducing the *power structure* concept [14], according to which the *memes* no longer combine to create functional *traditional cultures,* but agile *power structures* which compete with one another on the global market of goods and ideas. According to this view, the main power holders of today are not individual recognizable entities, but *structures* consisting of identifiable entities joined together by subtle power relationships.

While a complete account of the *power structure* theory is beyond the scope of this article, the following 'rule of thumb' simplification will suffice for our purpose: Whatever gets funded survives (in business as well as in research). We may think of this rule as the principle which now partly structures our *culture.*

An interesting consequence of the *power structure* view is that the way we make value judgments and choices is an integral part of the *power structure* and can be modified by it. In this way, the *power structures* can orient our seemingly free choices in favor of their interests.

The *power structure* view allows us to explain some of the peculiarities of our *culture,* for example the following Ulrich Beck's observation: "Globalism is a thought-virus which has by now stricken all parties, all editorial departments, all institutions. Its main article of faith is not that

people must engage in economic behaviour, but that everyone and everything – politics, science, culture – should be subordinated to the primacy of the economic." Beck uses the term 'thought virus' which has similar implications as *meme* to link the sweeping value change which we all are witnessing with the exacerbation of *meme* competition due to globalization.

It follows from this view that if we confide the development of our research to spontaneous evolution, the way we do research too might end up being molded according to the interests of the *power structure.*

E. Design as Alternative to Tradition

Design is defined as 'alternative to *tradition'. Tradition* is to *design* as evolution is to creation. Evolution and creation are the two alternative ways in which any functional whole such as an organism, an ecosystem or a technical object may originate. *Tradition* and *design* are the corresponding alternative ways of developing *culture.*

When we define *design* as 'alternative to *tradition'* we are not in any way implying that *tradition* and *design* are mutually exclusive or opposed to one another. On the contrary, they are simply two ways of arriving at the same goal – a well-functioning, sustainable *culture.* Simply, whenever the *tradition* can no longer be relied upon, *design* must be used.

The idea of applying *design* to *culture* might evoke associations with historical grandiose socio-cultural design projects. There is nothing like that here. *Design* simply means conscious care for the wholeness of *culture* and its elements.

Our contemporary cultural condition may be understood as the consequence of a historically unique transition – from the *traditional culture* to the *designing* one. We are no longer *traditional.* But we are not yet *designing.* As the traditional people did, we still rely on the spontaneous evolution of our *culture,* unaware that our *culture* is gradually turning into a *power structure.* Some global issues including non-sustainability may be explained as consequences of this development.

Memetic engineering can now be understood as a straight-forward application of *design* to *meme* development.

F. Memetic Engineering as Meme Design

We define *memetic engineering* as *meme design.* A good initial understanding of *memetic engineering* is through straight-forward analogy with genetic engineering.

Genetic engineering is a familiar example of a research paradigm, comprising a certain (evolutionary-genetic) way of looking at the living world, an intended type of result (the creation of a phenotype with desired characteristics, such as resilience to competitors and predators) and a method (the creation of a suitable genotype by combining favorable genes from distinct species).

Memetic engineering is characterized by a certain (evolutionary-*memetic*) way of looking at *culture,* an intended type of result (the creation of *power structures* with certain desirable properties such favorable side effects and superiority in competition) and a suitable method. The method of *memetic engineering* consists in two steps. The first is finding a suitable *base meme* which has the desired over-all *cultural* effect. The second is combining the *base meme* with selected *auxiliary memes* which can give it the characteristics it may lack, such as the ability to multiply and spread fast and strength and resilience with respect to competitors.

Genetic engineering has a controversial status, and for a good reason: Should we tinker with the natural order of things? The same controversy naturally arises around *memetic engineering* and the *cultural* order of things. This controversy is easily resolved with the help of the above-described *power structure* view, according to which the natural (*traditional*) order of things in *culture* has already been disrupted. The purpose of *memetic engineering* is to facilitate recovery.

3.   AUTHENTIC TRAVEL INTERNATIONAL PROTOTYPE

In this section we describe the Authentic Travel International (ATI) research project as a *prototype* (a model, a concise definition) of *memetic engineering*.

The goal of the ATI project is to *design* a complete business in travel industry.

G. Tourism Today

As one of the world's largest industries and largest employers (with estimated revenue of over 6 trillion dollars [15]), tourism has a decisive influence on the way a significant fraction of the world's population lives and works and on the way the revenues are divided globally. Furthermore, travel decides how the world's people and cultures meet with one another. Travel has therefore a large impact on global *meme* development and exchange

In the light of our *power structure* view of cultural evolution, it is interesting to look into the way in which the world of travel has been developing.

In its worst but not at all uncommon variant, the travel industry operates roughly as follows: With the help of bulldozers and other construction machines, a tropical beach area, possibly the site of a traditional fishing community, is turned into a holiday resort. For the traveler, the holiday resort provides a constructed stage for a 'dream vacation'. For the local population, the holiday resort provides low-wage employment. The main share of the revenue generated by the hotel resort is taken away by the international corporation which owns it.

Obviously, it is now far easier to travel to a distant country than it was a century ago. But paradoxically, experiencing distant people and cultures in an authentic way may in spite of that now be a lot more difficult!

This development assumes an interesting dimension when seen from the *memetic* point of view. From the beginning of civilization people traveled to get to know other cultures and often also themselves. But this *traditional* travel *meme* has lately been largely replaced by a *modern* one which better suits the existing *power structure* (economies of scale, financial interests). Instead of giving the traveler a way to absorb the *memes* of the destination culture, this degenerate tourism damages the destination *memes* and imposes its own, while keeping the traveler immersed in a constructed island of his own culture.

This, fortunately, is not all. A new trend is on the rise, with various names such as 'ecotourism,' 'responsible travel' or 'authentic travel'. The market research shows that the *majority* of people today would favor this new type of travel to mass tourism [16]. Recent polls indicate that the travelers also show a high degree of sensitivity to the cultural and economic consequences of tourism on the community of the destination [17].

Within the context of the ATI project, however, *authentic travel* is assigned a specific meaning. In other words, *authentic travel* is also a *designed* concept.

H. Authentic Travel as Base Meme

The first step of *memetic engineering* consists in finding a *base meme* which can be a better replacement for the degenerate ones. In the present case, this *base meme* is *authentic travel*.

Authentic travel has been developed by the second author, Karin Fürst, and her incentive agency called Authenticore in Norway.

Authentic travel is defined and described in detail in the accompanying article in this volume [18]. Here we highlight some of the key characteristics of *authentic travel* which are necessary for our discussion.

Authentic travel may be understood as a consistent application of the ethics of authenticity [19] to travel.

A key point about *authentic travel* is that it works in practice. The clients of Authenticore, typically upper middle class business people who have already enjoyed all manner of luxury travel, invariably find the *authentic travel* events to be surprisingly rewarding and often transformative experiences.

The product of *authentic travel* is not a thing or a service but an *authentic experience.*

The key role in *authentic travel* is played by authentic, inspired and entrepreneurial representatives of the local community. In Norwegian *authentic travel* terminology such a person is called *ildsjel,* which is a combination of 'enthusiast' and 'torch bearer.' The *ildsjel* has the role of a conveyer of authentic local values and of a catalyst for *authentic experiences.*

The product development in *authentic travel* is called *destination development.* The initial key step of *destination development* is a dialog between ATI *consultants* and local *ildsjels* whose purpose is to discover the local resources (nature places, activities, customs, foods, arts and, above all, other *ildsjels*) which are amenable to the task of facilitating *authentic experiences.*

The key technique of *authentic travel* is arranging for an *authentic contact* between people, both between the traveler and the local *ildsjel*, and amongst the travelers themselves. The *authentic contact* has been described by such words as 'mutual respect and appreciation,' 'genuine care,' 'mutual empowerment' and 'inspiration.'

The typical actors in *authentic travel* are smaller, family-owned businesses, run with vision and enthusiasm.

For our purpose it is most interesting to look at *authentic travel* from the *memetic* point of view. It is not difficult to see that, especially when compared to mass tourism, *authentic travel* offers a rich variety of *memetic* advantages: It empowers the authentic local *memes,* both morally and economically, thus helping their preservation; it provides for *meme* exchange across cultures; by its example it provides salutogenic new business *memes* which may be reproduced in businesses beyond the travel industry. And last but not least, it re-inspires people, both local and the travelers, to embrace values beyond money and comfort.

As a *meme,* the *authentic travel* may be understood as a direct antidote to Ulrich Beck's 'globalism'.

I. Support Through Auxiliary Memes

The second step of *memetic engineering* consists in finding or creating a suitable collection of *auxiliary memes* which can give the chosen *base meme* certain desirable characteristics such as the ability to multiply fast and the resilience in competition.   The over-all goal is a complete *memeplex,* namely a collection of synergizing *memes* which together give competitive advantage to the *base meme* and allow it to spread, multiply and prevail.

In the case of the ATI project, e-business, franchising and value-based marketing were identified as suitable '*meme* donors' [20] (Figure 1).
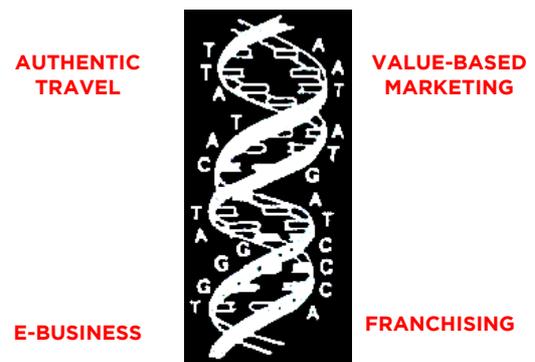

Figure 1: The ATI business model as combination of four *memes.*

To find the right combination of *auxiliary memes* we must ask "What does *authentic travel* lack in order to be superior in competition?" The obvious answer is that *authentic travel* is not organized as a modern business. Being practiced by small, spatially distributed units, *authentic travel* cannot take advantage of the economies of scale, investment capital, branding, quality control, centralized sales and marketing and other well-known prerogatives of globalized modern business. The resulting power balance resembles a digging competition where one contender is digging with a spade and the other with a bulldozer.

In practice, *authentic travel* still largely remains reserved for the elite travelers, mainly incentive groups, who are able to afford the large costs of creation and performance of *authentic travel events.* On the production side, it depends on the enthusiasm of the suppliers, sometimes against the money interests.

The question put before the ATI project is whether it is possible to empower the *authentic travel meme* and make it competitively strong and resilient so that it can reproduce and spread effectively? This translates into the question whether it is possible to *design* an *authentic travel* business which can make the *authentic travel* competitively superior to its competitors, or in any case make it sufficiently resilient so that it can multiply and reproduce and grow to its market potential. The *task* of the ATI project is to *design* an efficient modern company structure which supports *authentic travel. Memetic engineering* is chosen as the paradigm through which this effort is directed and organized.

Another way of saying this is that mass tourism is supported by the existing *power structure* while the *authentic travel* is not. The task of the second step of *memetic engineering* is to engineer a *power structure* which supports the *base meme.*

J. Authentic Travel as E-Business

An area where the competitive strength of *authentic travel* is visibly inferior to mass tourism is the economies of scale. Obviously, mass tourism operates with masses of people. The

holiday resort is a large-scale, efficient modern business, usually a part of a much larger international business. How can the small and fragmented *authentic travel* businesses match its cost-effectiveness and efficiency?

Some of the most spectacular business successes in history were made possible by a fortunate coincidence of two key factors: A new product with a large potential market, and a new production or business model by which this product could be efficiently produced and distributed. The textbook example is the development of Henry Ford's conveyer belt-based automobile plant in the early 1900s, which allowed him to ultimately own as much as 50% of the world's automobile production.

A century later, e-business offers the opportunity to make a completely different type of business efficient. While the conveyer belt meant the concentration of resources under one roof, e-business uses the Internet to join together smaller, spatially distributed units into reconfigurable 'value chains.' While the conveyer belt meant the production of uniformity, e-business offers customization. Exciting new business opportunities stem from the fact that e-business can give competitive advantage to business models which were earlier inferior to the mass-scale conveyer belt-type production.

Regarding the ATI project, the key observation is that the holiday resort is similar to a conveyer-belt production. There too the efficiency is the result of large-scale production concentrated under one roof, at the cost of authenticity. Furthermore, the *authentic travel*, with its small, spatially distributed units, represents exactly the sort of business which can be made cost-effective by using e-business techniques. Indeed, the usual e-business scenario, where small, spatially distributed units are joined together into reconfigurable value chains by using the Internet as connecting medium, can readily be applied to solve the logistic problems of *authentic travel* such as travel customization, scheduling and reservations. In effect, the Internet replaces the common roof of the holiday resort in the role of the medium which holds the new kind of travel business together.

The ATI business model is a distributed or virtual corporation, consisting of *members* which are individual authentic travel businesses. Those *members* which are sufficiently near one another to be combined during an *event* such as a vacation are joined together into a *destination.*

K. Authentic Travel as Value-Based Franchise

The e-business solution still leaves a number of questions open. The issue of branding and the closely related issues of quality control and marketing are central in modern business. Those issues are also central in travel (few people would take the risk of traveling for vacation to an unknown place in the middle of nowhere).

However, it is obviously impossible for every small *authentic travel* business to develop its own strong and visible brand.

Furthermore, a modern business needs to be able to grow fast and thereby also attract investment capital.

The franchise is the business model where the owners of a local business (such as a restaurant) lease a well-established business concept and brand (such as McDonald's). Franchises have been known for their extraordinary fast growth [21]. Furthermore, in a franchise operation the local people are the owners, which is essential in *authentic travel.*

The franchise business model obviously has large competitive advantages which the *authentic travel* businesses are lacking, but also an obvious disadvantage: It destroys authenticity! Indeed, the franchises such as McDonald's have been used as the symbol of the sort of problem which ATI project endeavors to resolve.

We eliminate this disadvantage by creating a modification of the franchise business model called *value-based franchise.* In a *value-based franchise,* what the franchise gives to the franchisee is not a uniform and a hamburger recipe but a shared value and a way to create and market products which reflect it. In the ATI case, this shared value is *authenticity.*

The *authentic travel* definition [18] replaces the 'hamburger recipe' in this new type of franchise. This definition allows us to ensure that the product is customized according to local conditions (i.e. that it's *authentic*), while at the same time reflecting the identity and the specific quality standards which are associated with the brand.

A distinct challenge in the ATI business model design is to ensure a fair division of gains between the franchise owners and the franchisees.

The resulting combination of e-business and value-based franchising practically means that the *member* businesses are not simply joined together into value chains as the need arises, as they would be in a pure distributed corporation. The *destination development* process, which the *members* undergo prior to joining the ATI business, ensures that the *members* will deliver the product which corresponds to the brand.

The complete e-business support is leased by the *members* in addition to the business concept as a part of the franchise agreement.

By developing the *value-based franchise* we are able to play a sort of a judo trick on conventional international franchises: We use their own source of power to outperform them in competition.

L. Marketing Authentic Travel

A conventional international business has profit as the only goal. In contrast to that, the ATI business model aims at *authenticity* of human

relationships in all aspects of its operation, including the financial aspect. How can we ensure that the ATI business has competitive advantage over a profit-oriented business which is in all other ways similar or equal?

From the *memetic* point of view this question is central. Unless we can find a satisfactory answer, the ATI business model will not be resilient, because its profit oriented mutant will eventually develop which will drive it out of business.

We seek to resolve this issue by developing a suitable form of *value-based marketing.* Intuitively, the intended effect of *value-based marketing* is similar to the effect of turning on the light: The true nature of the business immediately becomes obvious, including the subtle consequences and effects.

The *value-based marketing* is the marketing where the values that are behind the product are explicitly addressed [14]. Two kinds of values are of interest: the ones which benefit the customer and the ones which benefit the larger environment, including the people, nature, culture and economy of the *destination.* Regarding the first, the ATI *value-based marketing* can takes advantage of the fact that no *authentic* meeting between people can be based on an unfair business scheme and vice versa. Regarding the second, the ATI value-based marketing takes advantage of the fact that a growing fraction of the travelers are sensitive to the socio-cultural effects of the travel business [17].

When properly implemented, the *value-based marketing* can complete a synergistic relationship between the economic (profit) and the environmental (benefits to local and global community) effects of the ATI business. We call the business which has this property *synergistic business.* In a *synergistic business,* doing what is good for the environment brings higher revenues. By making it *synergistic,* it can be secured that the ATI business will remain a reliable carrier of the *authenticity meme* also in the long run.

The ATI marketing exploits the possibilities of visual and other media and state-of-the-art communication design in order to communicate and promote its values.

M. Authentic Travel International Project

The ATI project developed out of the Authentic Norway initiative which was started by Karin Fürst in 1997. Authentic Norway became an academic research project in 2002 when Reidar Holtskog from Norwegian Academy of Art and Design and Dino Karabeg from University of Oslo Information Design Group joined the project. At the time of this writing, one M.S. dissertation has been completed and several others are under way.

An active part of the project is the Authentic Travel Forum (ATF), a multi-disciplinary group of experts. The main role of the ATF is to be an advisory organ for *destination development.*

We are developing a pilot destination in Hordaland, on the West Coast of Norway, coordinated by Børrea Shau-Larsen. and Karin Fürst.

We are developing a project in Azerbeijan and Bosnia/Croatia called "Between Communism and Globalization" with Gulnara Mehmandarovna and Pasic Amir. The goal of this project is to use *authentic travel* as a part of monument and culture preservation and revitalization scheme in the former communist countries.

Knut Werner Alsen of Norwegian University of Life Sciences has recently become an active actor in the project. The NULS as institution is in the frontline of development of environmentally sound development of agriculture and technology. There is a plan to include *authentic travel* into their research and education. There is also a proposal to co-develop an *authentic travel destination* in the slums in Kenya.

The ATI project has matured to the point where it is ready to become a large international project with suitable sponsoring. Part of our motivation for presenting the project at the IPSI conference is to invite the IPSI community to collaboration.

4. THREE WAYS TO PRACTICE MEMETIC ENGINEERING

In this section we give a general outline of *memetic engineering,* as it has been introduced by the ATI project prototype.

The term *memetic engineering* may be understood in three different ways.

N. Creating Memes

Memetic engineering may be understood as the creation of good (beneficial, resilient, competitively superior etc.) *memes.*

Unlike the genes which are identifiable physical entities, the *memes* are information. As such, they may be concrete or abstract, general or detailed. Memes can contain other memes. Because of that, *memetic engineering* can be applied on a more concrete and detailed or on a more abstract and general level.

As shown by the ATI example, the goal of *memetic engineering* can be as concrete as to create a business model which has certain desirable properties. The ATI business model is a *meme.* If that *meme* turns out to be resilient in competition, we have created a successful business which is able to outperform its competitors and grow rapidly. Therefore *memetic engineering* may be understood as a way to conceptualize business design, and in particular e-business design.

An advantage of this way of conceiving a business is that it stimulates the holistic or ecosystemic way of thinking. On the one hand, creating a successful *meme* means creating something which can outperform its competition

and grow fast, which is essential. On the other hand, a good *meme* is the one which has a good impact on its larger, *cultural* environment, which is also essential. So *memetic engineering* as a business design metaphor invites us to find a way to reconcile or even synergize those two sets of requirements and create *synergistic businesses* which are both good business and good for the people and the planet.

The entire ATI business model as a *meme* may be replicated in other domains. For example, there is a plan to adapt this business model for a healthcare business which has strong orientation towards prevention and salutogenesis.

Within the ATI business model there are more specialized *memes* which may be replicated independently, for example the *value-based franchise* or the *value-based marketing.*

The ATI project is at the same time creating research *memes.* The idea is to stretch the limits of *traditional* research while doing work that is well-founded and justifiable. Even that stretching the limits is a *meme.* In the ATI example academic researchers from a variety of disciplines join forces with field workers and experts in order to create a new kind of business together.

Furthermore, academic research in general may be conceived of as *meme* creation. Instead of discovering new pieces within the 'puzzles' of traditional disciplines, we create *memes* which may make a positive difference in the world we live in.

One of the centrally important *memes* is *design* – instead of just following the *traditional* routine, we *design.* We can *design* the way we do research, and we do research by *designing. Design* is a way a being, a new *cultural* paradigm [22].

O. Supporting Memes

The second way of understanding *memetic engineering* is to consider it as the creation of a support system for good *memes,* so that they may live long and multiply fast.

Here we may follow the familiar ecological line of reasoning and observe that there are many '*cultural* species' which are threatened by extinction and which need support. An example is authentic local cultures which are threatened by globalization. Another example is travel which*,* as we have seen, is being modified by the *power structure* and turned into something which no longer serves the original purpose. *Authentic travel,* on the other hand, is a *meme* we want to support because we expect that it will have a salutogenic effect on *culture.* Finally, authenticity itself is an endangered *meme* which needs to be supported.

We may understand how *meme support* might work in practice by considering an example, the ATI marketing. By exhibiting *authenticity* (real people, real cultures, real smiles), ATI marketing can surely make the conventional travel industry advertising blush. The ATI marketing can deliver most valuable *cultural* messages. But the prerequisite is that the ATI is a successful business which is able to pay for its advertising.

By creating a successful *synergistic business,* the ATI project can make the *authentic travel meme* resilient, fast growing and powerful.

We may consider the research and development in science and technology as a proficient and powerful *meme* which has flourished during the past century. This *meme* too is in danger of being corrupted and misused by *power structures.* We may consider the ATI project as a supportive environment which allows this *meme* to be combined with other *memes* (humanities research, socio-cultural activism) and to contribute towards creating solutions.

P. Memetic Engineering as Method

Memetic engineering is, of course, also a method. This method closely resembles genetic engineering. As already mentioned, the *memetic engineering* method consists in finding a *base meme* with desirable characteristics, and then enabling it to outperform its competition and spread fast by combining it with other existing *memes* and their modifications.

An immediate application of the *memetic engineering* method is in (e-)business design. It has been repeatedly observed that the largest benefits and largest strength that the Internet can offer to a business is not in making the existing business processes more efficient, but in recreating the business processes so that proper advantages of Internet can be reaped. General Electric's legendary CEO Jack Welch is reported to have all of GE's line-of-business executives to "Grow your business.com" by reinventing every aspect – buy, make and sell – of their business units. In practice, this 'reinventing' is of course easier said than done. We hope that *memetic engineering* might provide a guiding pattern which might facilitate this process. *Memetic engineering* invites us to think holistically, to find points where our desirable business model or *meme* is at a disadvantage, and then to strengthen it by combining it with other business *memes.*

Another application of the *memetic engineering* method is in finding solutions to economic and socio-cultural problems related to globalization. Those problems at present don't seem amenable to solution. Researchers often observe that the solution requires some form of global governance [4], but it is far from obvious how global regulation which would limit the power of international corporations might be developed under present conditions. Meanwhile, *memetic engineering* is offered as a possible strategy.

5. CONCLUSION

We now turn back to the questions about MIT research we asked in the Introduction. We propose answers by drawing general conclusions from *memetic engineering* and the ATI project examples.

Our first question is asking about the intrinsic **advantages** of MIT research over the *traditional* one. What advantage do we get when we put a broad variety of backgrounds and talents together? The main advantage is that we can then put the things together; in other words, we can *design.*

At the beginning of this article we have pointed at an instance of the very common situation where one *traditional* field (in this case Internet and e-business research) is producing a technology, while researchers from another field (sociology of globalization) are diagnosing the problems which result from its use. The general situation is that the *traditional* research is producing fragments of knowledge and technology which are then put together as it suits the *power structure.* MIT research is needed in order to *design* the structures through which our knowledge and technology can be used in truly beneficial ways. MIT research is in this case necessary, because creating solutions requires a combination of a variety of talents and backgrounds.

Our second question is asking about the **principles and criteria** by which we should evaluate MIT research in order to secure its advantages. The fragmentation of *traditional* research is the result of an underlying assumption that discovering new pieces in the jigsaw puzzle-like picture of reality is what academic research is all about. We have seen that this assumption has been challenged on both epistemological and pragmatic grounds. The time is ripe for change. As Herbert Simon pointed out [23], it is now reality *creation*, or what we have been calling *design*, that needs to become our priority. And as soon as *design* is accepted as the goal, the MIT research becomes the natural form of organization.

Our third question is asking about the suitable **method** by which MIT research may be done. *Memetic engineering* is proposed as example of an MIT paradigm, which includes both a practical method and a way of conceptualizing and orienting MIT research. The goal is not just technical efficiency or profit but well-being, and a *culture* which cultivates well-being. The *memetic engineering* method instructs us how to create the *memes* which may bring us closer to such *culture.* A strategic point behind *memetic engineering* is synergy or reconciliation. Science and technology are no longer separated from the humanities. Through the *memetic engineering* metaphor the technology researchers are guided to use their talent in the solutions of socio-cultural problems.

Our fourth question is about the **development of the method**. The *traditional* research methods evolve spontaneously. The disadvantage of such manner of development is that it cannot accommodate large changes (of epistemology and of needs). Furthermore, seemingly spontaneous development can easily be directed by *power structure.* The *memetic engineering* is a *designed* paradigm. If we agree that the true value of MIT research is manifested in the *design* scheme of things, then what could be more natural than to *design* the MIT research methods? Such *design* may be done by using a *traditional* paradigm (genetic engineering in our case) as template.

Regarding our fifth and last question, we propose that, from the *design* point of view, a **result** in MIT research should be considered as **fundamental** to the extent in which it contributes to making the world a better place. Or, in the language developed in this article, a result is fundamental if it is a vitally needed but lacking *meme.*

What might be an example of such result? We can hardly imagine a task which would be more fundamental from the *design* point of view than the creation of a global corporation which is both good for the business and good for the world. To see why, let us for a moment consider what is perhaps the most advanced MIT project at the present moment, namely NASA's preparations for sending astronauts to Mars. Let us imagine that this project results in complete success, that new 'space technologies' are developed, and that even a new form of life is found on Mars. Even then this project might bring us only new instances of our old *memes*: curiosity-driven research, fascination with technology, the tendency to escape, mentally and now even *physically*, from urgent issues here on Earth.

To be sure, there is nothing wrong with curiosity-driven research or with the fascination with technology; they are manifestations of good and useful human strivings, and they *do* bring us progress. There is also nothing wrong with globalization or with international corporations as such. The only problem is that there is something missing: A good way to put those good things to a good use, without damaging 'side effects.' As long as we abandon the task of putting things together and the task of putting things to commercial use to uninformed and unguided power interests, in other words to spontaneously evolving *power structures,* we cannot be certain that *any* good thing, any 'fundamental discovery' or any fascinating new technology will not ultimately be used against us.

We have modeled this new 'fundamental research question' and its desired outcome as the creation of *synergistic business* and shown, through our ATI example, that this task might indeed be possible. We would now like to

develop our ATI project further as an international initiative which is focused on this task. In addition to bringing to life a vital but lacking *meme,* the *design* of a *synergistic corporation* would necessarily involve a variety of partial techniques, technologies and solutions, which could then be used for other similar projects and purposes. And as a research *meme,* it would refocus out talents, resources and attention to 'down-to-earth' issues where they are most acutely needed.

REFERENCES

[1] Toulmin, S., "Return to Reason," *Harvard Univ. Press*, 2001

[2] Beck, U., "Risk Society," *Polity Press,* 1988.

[3] Giddens, A., " Runaway World," Profile Books, 1999.

[4] Hertz, N., "The Silent Takeover; Global Capitalism and the Death of Democracy," *Cambridge University Press,* 2004.

[5] Castells, M., "Information Technology and Global Capitalism," In Will Hutton and Anthony Giddens (Ed.): "On the Edge. Living with Global Capitalism." pp. 56-57. *London: Jonathan Cape*, 2000.

[6] Kuhn, T., "Structure of Scientific Revolutions," *Univ. of Chicago Press,* 1962.

[7] Karabeg, D., "Polyscopic Modeling Definition," In Griffin, R. at al (Ed.), "The Turning of the Tide," Selected Readings of the IVLA, 2004.

[8] Karabeg, D., "Designing Information Design," Information Design Journal 11/1, 2003.

[9] Karabeg, D., "Definitions of 'culture', 'information', 'design' and 'information design'," *International Institute for Information Design*, Online Dictionary of Information Design Terms. Tokyo, Oct. 1999.

[10] Bauman, Z., "Culture as Praxis," SAGE, 1999.

[11] Dawkins, R., "The Selfish Gene," *Oxford University Press,* 1976.

[12] Blackmore, S., "The Meme Machine," *Oxford University Press,* 1999.

[13] Giddens, A., "Living In Post-Traditional Society," in Beck, U., Giddens, A and Lash, S., (Ed.) "Reflexive Modernization," *Polity Press,* Cambridge, 1994.

[14] Karabeg, D., "Information for Conscious Choice," Information Design Journal 11/2,3, 2003.

[15] World Travel and Tourism Council, http://www.wttc.org/2004tsa/frameset2a.htm

[16] Viken, A., "Tourism: Traditions and Trends," *Gyldendal, Oslo,* 2001 (In Norwegian).

[17] http://www.responsibletravel.com/Copy/Copy101763.htm

[18] Fürst, K., and Karabeg, D., "What is Authentic Travel? An Experiment in Polyscopic Knowledge Representation," this volume.

[19] Taylor, C., "Ethics of Authenticity," *Harvard University Press,* 1992.

[20] Karabeg, D., "XML Technologies, Value-based Marketing, Franchising and the New Paradigm in Business." Proc. SSGRR-2002S conference, L'Aquila, Italy, July/August 2002.

[21] Bradach, J., "Franchise Organization," *Harvard Business School Press,* 1998.

[22] Karabeg, D., "Design is the Alternative to Tradition," Proc. European Academy of Design Conference EAD06, Bremen, Spring 2005.

[23] (Simon, H.,, "The Sciences of the Artificial," *MIT Press*, 1969.

Dino Karabeg has a doctorate in computer science/algorithm theory from the University of California at San Diego. Since 1992 he is an Associate Professor at the Department of Informatics, University of Oslo, where he is developing *information design,* a new way of creating and using information.

Karin Fürst is a graduate of Lausanne School of Hotel Management in Lausanne, Switzerland, the owner and manager of the Authenticore incentive agency and the coordinator of the ATF group. Karin is in the forefront of the development of authentic travel in Norway.

Jan Egil Hagen is a graduate student in the Department of Computer Science, University of Oslo with research interest in information design and memetics.