

Hans Hass

The Semi-Predator

How to overcome our instincts and be more successful in business

*Who overcomes the lion?
And who the giant?
Who the demons and the elves?
Only those who overcome themselves!*

Walther von der Vogelweide

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Translated from the German by Michael Stachowitsch

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Preface

The thesis forwarded in this book can be summarized in four statements:

First: About 10,000 years ago the behavior control mechanisms of our human ancestors ran into a hitherto unrecognized glitch. Rather than abating over time, this disturbance has grown stronger today than ever. The result is that working people and businesses all over the world are less successful than they could be. Probably more than 80% of them therefore fail to make optimal use of their talents and means.

Second: As different as human professions may be, and as different as various businesses – from mom-and-pop stores to giant conglomerates – may be structured, they all make exactly the same mistakes. And the underlying reason for these mistakes is the same everywhere.

Third: These mistakes are avoidable. Once we realize why this internal conflict arose at that particular junction of human evolution and why it was in fact unavoidable, then these mistakes can be eliminated. This requires a certain measure of discipline. The great personal benefits that stand to be reaped are a strong argument for bowing to such discipline.

Fourth: Successfully taking this route not only improves our chances for greater success and higher profits, but also improves our ability to utilize this success and profit in private life. Ultimately, even the grave differences between states can be ameliorated by such a realignment, as I argue toward the end of the book. The first step, however, is to analyze this internal conflict in our behavior mechanisms, which I term the “psychosplit”, in the business environment, where it has its roots. The goal is to determine its impact on our daily decisions. This is the only approach that can reveal a fitting strategy to reduce or entirely eliminate this inner conflict and that can help employees and businesses to optimally apply their talents and resources – for their own benefit and for that of the environment.

How can we explain the fact that such a crucial phenomenon has remained undetected to this day? One explanation may be that, although our evolutionary roots in the animal kingdom have been known for over 100 years, this knowledge has been more an irritant than an incentive to draw consequences. Moreover, our technical and cultural advances have moved us so far beyond early humans that we have difficulty imagining how ancient processes could continue to exert their influence until today.

Although the issues raised here stray far from the topics normally treated in business circles, my line of argumentation presupposes only a modicum of patience, but no special scientific knowledge, on the reader’s part. Understanding the unusual hurdle that our ancestors had to take 10,000 years ago (i.e. more than 2 million years after human intelligence unfolded and we attained self-awareness) does require stepping outside certain well-trodden paths of thought and taking on a new perspective. To this end, the underlying processes presented in the first half of the book are divided into 9 premises and a conclusions chapter. Each of the premises can therefore be critically examined before proceeding to the next premise and to the conclusions drawn. Much of what is said may initially appear self-evident or somewhat

peripheral, but exposing and fully comprehending the canker in our thought process requires pursuing and evaluating this chain of facts.

The second half of the book then deals with the issue of how we can counter the negative impacts of the psychosplit. This yields a logical sequence of 9 guidelines designed to optimize business strategies, both for individuals and companies. Others guidelines no doubt remain to be discovered, but I believe all the key points are made here.

The research that led me to the psychosplit thesis spans a period of 6 years and represents the practical outcome of the Energon theory, which I published in 1970¹. My earlier research in tropical seas also contributed in many ways to this new field of endeavor. My studies on shark behavior, for example, based on direct observation in the field, revealed more about the mechanics of innate predatory instincts than any laboratory studies ever could. And the incredible diversity of animal life in coral reefs drew my attention to natural laws that turn out to be equally applicable in explaining links and causalities in the business world².

The discussions in my seminars at medium-sized and large businesses yielded many arguments exposing the narrow-mindedness of many fundamental attitudes, but also pointed to the desire of many to overcome these limitations and to view economic phenomena as part of biological evolution, i.e. as part of the natural process and order of things³. In an age when scientific disciplines are being split into ever narrower fields, my lectures at the University of Vienna's School of Economics reaffirmed the interest in broader, more encompassing concepts and frameworks.

This book received valuable impulses and comments in the field of psychology from Prof. Dr. Bernd Spiegel in Mannheim; in the field of ethology from Prof. Dr. Bernhard Hassenstein in Freiburg; in the field of business economics from Prof. Dr. Erich Leutelsberger in Vienna; and in the field of human ethology from my long-standing friend and expedition team member Prof. Dr. Irenaeus Eibl-Eibesfeldt in Seewiesen. I thank them all, along with numerous other people who helped in one way or another. I have been exchanging ideas for many years with Wolfgang Mewes, the founder of the Energo-Cybernetic Management Strategy (EKS). The remarkable successes of his teachings and the links between the Energon theory and the practical EKS approach have allowed me to illustrate, with concrete case studies, the guidelines derived by exposing the psychosplit.

As this book addresses all those who seek to gain profit and success in the business, I have used relatively simple language throughout and inserted footnotes to direct the scientifically interested reader to more detailed information and key literature in the Appendix and Reference sections.

Overcoming the psychosplit opens a clear route for further human evolution. In my opinion, it could help decide whether our growing power ultimately proves to be a self-destructive force or whether it will pave the way to a pluralistically oriented, peaceful, higher order.

*Prof. Dr. Hans Hass
Vienna, June 1988*

Part One

The Psychosplit

Its origin and its repercussions

1st Premise:

Gaining energy is the crucial function in all organisms

In order to fully comprehend what happened to our ancestors nearly 10,000 years ago and why this continues to affect our decisions to this very day, we have to take a rather broad detour. This detour requires examining the immense significance that energy gain has for all organisms, whether they be plants or animals, unicellular or multicellular creatures. Our sensory organs are unable to directly perceive energy and we therefore tend to evaluate the great diversity of life on our planet based primarily on the shape and behavior of organisms, on the organs (along with their activity and interplay) that make up their bodies, as well as on their reproduction and the development of their progeny – for example the process in which the fertilized egg gives rise to a new individual through cell division and cell differentiation. Human reason tells us that elementary forces are at work here. On the other hand, most of us are only tangentially aware of the nature of these forces or energies, their origin and their features.

Even today, physicists are at a loss to fully define energy. At the same time, the features of this extraordinarily important “something” have been studied in detail and are well known. It goes without further saying that this “something” plays a decisive role in every aspect of human activity, especially in the technological, the economic and the political sectors. The energy crisis and nuclear weapons have made this abundantly clear to everyone.

The first, astounding feature of energy: it is indestructible. It can neither be created nor destroyed. The notion that any particular organ of any organism can “create” energy is therefore an illusion. Whatever energy an organism requires must either be given to it by its parents, or that organism must extract it from the environment on its own.

The second, no less astounding feature of energy: it takes on a variety of different forms (Fig. 1) and can be converted from each one of these forms into any other form. How this works in practice can best be demonstrated using an example:

One of the numerous forms of energy is *gravitational energy*. Masses exert an attraction on each other. This explains why the earth orbits around the sun and is forced by the latter into a particular trajectory. It also explains why our planet exerts a powerful pull on all the objects on its surface, whether these be human beings or stones. When rivers flow “downstream”, then they are in fact moving closer to the center of the earth. And this provides us with a first

example of energy conversion. The energy associated with the river's motion (*kinetic energy*), causing it to excavate its channel bed and sweep away sediment and tree trunks, is converted gravitational energy. The steeper the slope, the higher the energy. If we install a turbine under a waterfall in order to power a generator, then we can successfully convert the water's kinetic energy into another form of energy, namely *electricity*. If we send this along wires to a factory housing an electric oven, then we convert electricity into *heat*. This is the term we apply to the vibration of the smallest particles of matter – atoms and molecules; this heat spreads both through the air and via surrounding objects and fluids – it “heats” something up. If we send the electric current to a light bulb, then we convert electric energy into *light* energy. If we operate a generator with this electric energy, then we convert electricity into kinetic energy. And if we let the motor power a pump that conveys water up into a higher-lying basin, then we have again converted the kinetic energy into gravitational energy, which remains stored in the reservoir: in this case we refer to potential energy, which can immediately be released as “free” energy that can do work when we open the valve and the water jet shoots “downhill”.

Other forms of energy that have not been mentioned above include *magnetism*, *surface tension*, *chemical energy* – that force which combines atoms into molecules – and the especially powerful *nuclear energy*, which binds the tiny components of the atomic nucleus (the nucleons) to one another.

Energy forms:

1. kinetic energy (energy of movement, e.g. of a cannonball)

heat (vibrations of atoms and molecules)

2. gravitational energy (attraction of masses, e.g. between the sun and the earth)

3. electromagnetic energy:

light

electricity

chemical energy (the bonds between atoms, giving rise to molecules)

surface tension (which determines the size of water drops)

magnetism etc.

4. nuclear energy (holds the subatomic particles that form atomic nuclei together)

5. electron rest mass energy (forms the mass of the subatomic particles)

Fig. 1: Overview of the key manifestations of energy. Each of these manifestations can be converted into any other form. Historically, however, most have been quantified using different units such as erg, calories, horsepower, meter-kilogram force, watt-seconds etc. Today, the common measure for all manifestations is the joule.

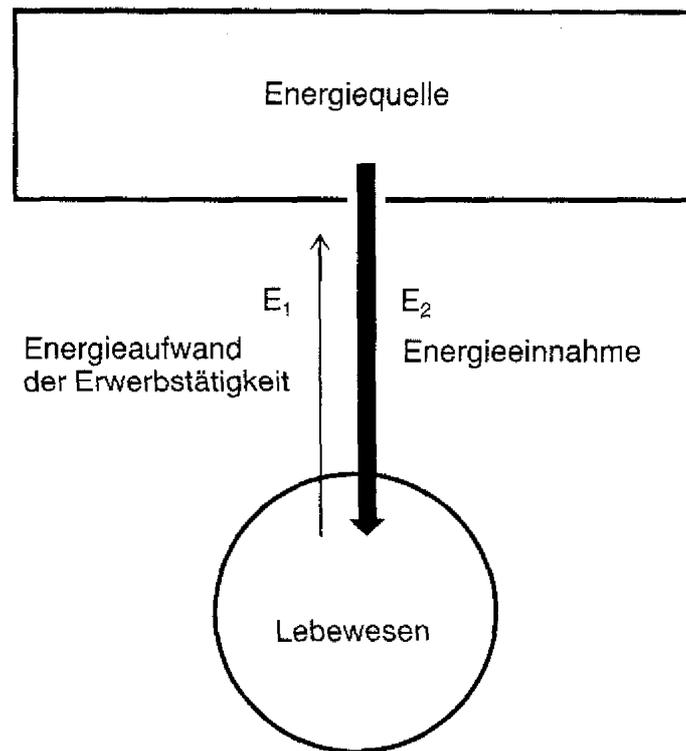
In the present context, we need only note that all these forms of energy, which appear to be quite different from one another, are ultimately *one and the same thing* – that invisible “something” that harbors highly versatile capabilities⁴.

At the organismic level, to which we now turn in more detail, energy has a special significance because none of the organism's manifold functions would be possible without it. As everyone knows, plants and animals are composed of cells in which exceptionally complex processes occur. Each of these processes requires energy. Cells are combined into organs, which perform specialized tasks in the body, a system which is based upon a division of labor. In plants, the leaves fulfill an entirely different function than roots or flowers. In animals, the sensory organs, locomotory apparatus, nervous system and digestive tract are structured entirely differently. Energy is used to perform highly differentiated tasks based on widely differing material structures. In reproduction, energy is first required to develop these reproductive organs, then to regulate, control and maintain them. Energy can be made to perform exceptionally diverse tasks depending on how the respective matter is structured⁵.

As energy cannot be created, every organism must extract what it needs from the environment and then apply it accordingly. This is a primary function because every other task already requires energy, i.e. they require that surplus energy be available. From this perspective, energy – as that invisible “something” – becomes decisive. Once an organism loses the ability to gain and apply the energy reserves it needs for its functions, then its life ends and it “dies”. The organs become useless and decompose.

Note that organisms must do more than merely acquire the precise amount of energy from the environment that they need to cover their overall activity. Another peculiarity of energy enters the calculation here, namely the process of conversion: virtually no one form of energy is transferred 100% into another. As a rule, a considerable portion is converted into heat that is lost to the surroundings. Technicians refer to the “efficiency” of the energy conversion. Thus, for example, an automobile motor converts the fuel's chemical energy into kinetic energy that propels the car forward. The efficiency here is 40%. This means that 60% of the work that the chemical energy in the fuel could theoretically do is lost in the process (escapes into the environment as heat) and only 40% is actually used to move the car. This loss is significantly greater when electric current is converted to light in a light bulb. The efficiency here is only 9%. Thus, only 9% of the applied energy is converted into the desired form, and the loss exceeds 90% (“entropy”).

Long series of energy conversions take place in the body of every organism before the various organs can use the raw energy gained to fulfill their specialized tasks. This means that organisms must consume many times more energy than their varied functions actually require. This often neglected fact underlines our first premise – that energy gain plays a crucial role in the living world. Any organism that fails in this key endeavor is doomed (Fig. 2).



*Fig. 2: **Energy gain in living organisms.** No movement and no life functions are possible without useful energy. Each organism must therefore acquire and harness more energy from the environment than its overall activity requires. If the organism is unsuccessful in doing this, its life processes cease and it dies.*

(Energiequelle...energy source, Energieaufwand der Erwerbstätigkeit...energy requirements for the acquisition process, Energieeinnahme...energy consumption, Lebewesen...organism)

Life is a process that depends on the interplay between many quite different activities. All require energy. Without energy there is no movement, no development, no capability. Not even for a millisecond.

2nd Premise:

All animals rely on the organic structure of other organisms for energy

Over the long course of evolutionary history, beginning in the ancient seas nearly 4000 million years ago, two forms of energy gain were able to assert themselves: that of "animals" and that of "plants"⁶. In order to better appreciate how animals acquire energy, which is fundamental to the present study, it is helpful to first examine the energetics of plants.

As every reader will know, plants – whether they live in water or on land – gain their energy from the sun-rays that flood our planet in light. The process by which this light energy is

exploited and converted into chemical bonds is invisible even to the strongest microscope. Nonetheless, scientific research has deciphered the process known as “photosynthesis”. Simply stated, the energy quanta of the light rays are harnessed to build up molecules from atoms. The solar energy is converted into chemical bonds. This energy binds oxygen, hydrogen and carbon atoms to form carbohydrate molecules such as starch.

There is no need to go into the chemical cycles involved here. The fact remains that the energy quanta in these molecules are encapsulated in what amounts to tiny “cages”, and this energy can be released whenever the plant needs to fulfill some task. In this case, the molecules are broken down into their building blocks and the cages opened. This released energy can then be used to build up other molecules, giving rise to proteins, fats, or other carbohydrates which, in turn, are used to form stalks, leaves, roots, and other necessary organs. The highly complex, miniature workshops in which photosynthesis takes place are termed plastids and are largely concentrated in those leaves that face the sun. Aquatic plants extract all the matter needed to produce their organs from the surrounding medium; land plants acquire some of this material from the air and the remainder from the water that the roots soak up from the soil. On land, getting enough water is a critical factor. During the day, light is typically available in superfluous amounts. The apparatus needed to harness this light, however, is very “expensive”, and these costs ultimately decide – in the form of competition between plants – which individuals and species prevail. Plant growth and reproduction also entail considerable costs, but these processes need not concern us here. The important thing to note is that all the other molecules formed by the plant – not only starch – also represent energy depots. The atoms they contain are all held together by chemical bonds, i.e. converted solar energy.

Energy acquisition in the animal kingdom, which should interest us because our own bodies use the same mechanisms, is quite different from that of plants yet also shows astounding parallels. Namely, both animals and plants break molecules down into their components in order to release the contained energy. The one significant difference is that animals *encapsulate energy in “cages” not of their own making.*

Animals therefore rely on biting off and digesting pieces of plants or other animals – or on devouring their prey whole – in order to use the organically bound energy for their own needs. In this sense, all animals are “predators” based on their diet. Biologists tend to differentiate between “plant-eaters” (herbivores) and flesh-eaters (carnivores), but this creates a false impression. Although plants cannot actively defend themselves, do not flee, and do not emit cries of anguish when they are eaten, they suffer precisely the same fate as an animal prey that is bitten or swallowed whole: in a violent act, they lose parts of their bodies or their very existence. In the case of scavengers, there is no resistance at all, but only because the dead organisms – the carrion – can no longer put up a fight. Here, the violent nature of the act is reflected in the aggressive behavior and bitter fighting with competitors who all want a piece of the same prey⁷.

Competitive behavior between the animals is often considerably more brutal than the predatory act itself. Even if the competitors oftentimes never actually come face-to-face, it still remains a life-and-death act. An animal that fails to acquire the energy it needs for its life processes starves and is eliminated. While this process is not quite so visible in plants, it is not

one bit less harsh. A perfect example of this ruthless selection is the many seeds that are widely disseminated by one means or the other: only very few land on “fertile soil” and survive to form a new plant individual. Moreover, the behavior of neighboring plants is much less friendly than the harmonious impression we get when pleasantly strolling through a meadow or forest. Above-ground, leaves and branches fight for the light they require, below-ground the roots compete for crucial water resources. In both animals and plants, so-called monopolists – forms that outcompete all others – are rare. While extreme specialists may qualify, they reproduce so quickly that they soon face stiff competition – namely from members of the same species rather than from individuals of other species.

I emphasize these interrelationships here because they will form the cornerstone of our later deliberations. In this light, the term “evil” is inappropriate for an animal that preys on and thereby damages or kills another animal, or that tears pieces from or devours plants whole. From our human, emotional standpoint, life itself is an exceptionally ruthless and brutal process. Darwin was among the first to clearly point this out. Our inclination to derive pleasure from nature and its many wonders lulls us into forgetting this. Novelists, poets and film producers outcompete each other to present us with a picture of nature that is more fantasy than reality. This book concentrates on animals, and all are unequivocal predators, whether they be traditionally appealing, such as a deer, or an object of fear, such as a rattlesnake⁸. In order to acquire energy, they all must seek and overpower prey. This is equally valid for an elephant and for the parasite that enters and exploits the body of another organism, thereby damaging and often destroying it. Whether the prey be animal or plant is immaterial. The goal is to snatch the energy that others have built up. The fact that this process also yields material – valuable building blocks – is an additional advantage. In plants, energy and material are gained from different sources, whereas both are gained at once in the “predatory” animal strategy. Importantly, animals can go for long times without consuming new building blocks, but they cannot survive a split-second without energy. Most of the consumed material is eventually excreted. In all these processes, whether it be foraging for food, attacking prey, or fighting competitors, one central aspect remains invisible to us. I am referring here to the chemical energy that plants extract from sunlight. When an animal eats that plant or itself falls prey to some animal, this energy is passed on directly from one organism to the other.

What about the highly touted partnerships, mutual support and associations that organisms on this planet exhibit? Are predation and competition not balanced by an array of “friendly”, synergistic acts? While this may be true, it by no means changes the overall picture. The development of symbioses is a case in point, for example the hermit crab that deposits an anemone on its snail shell. The anemones give the crab an additional measure of protection against its enemies, whereas the anemone gets a free ride and can take advantage of better life conditions. Termites would be unable to digest their food, namely wood (i.e. they are unable to open the “energy cages” mentioned above), were it not for the protozoans and bacteria that inhabit their guts. The latter benefit from being effortlessly supplied with sufficient wood to extract energy for themselves. In lichens, algae and fungi are so intimately united that they were long thought to be single organisms. In the wolf pack, one wolf helps the other: in an ant colony, the division of labor is reminiscent of communities established using human intelligence. From another perspective, however, the protection that the anemone affords the hermit crab (thereby allowing it to survive) is a distinct disadvantage to

the crab's *prey*. For the *prey* of a wolf pack, the pack itself is a considerably greater threat than any individual wolf. And the same holds true for insect states. Such partnerships spawn ever more efficient predators. The good cooperation between the partners is a prerequisite for enhanced success – the partnership itself, however, simply represents a “higher-order” predator.

Even the sacrifices that brooding parents must make to feed their young – an act we so sympathize with – changes nothing in the overall concept. While those parents certainly help their offspring by protecting, nourishing and nurturing them, they clearly do no service to the *prey* that those offspring will one day pursue. One species boosts its chances of survival... but to the detriment of individuals of other species, i.e. those that are the preferred diet⁹.

A particularly striking example of how poorly the layperson's assessment of biology meshes with reality is the little-appreciated fact that plants could not even exist if animals did not eat them. Conversely, the existence of plants is an equally fundamental prerequisite for the existence of animals. Plants need carbon dioxide to fuel photosynthesis, whereby oxygen is excreted as a waste product. Animals, on the other hand, require oxygen to fuel digestion, exhaling carbon dioxide as a waste product. The bottom line is that most animals would ultimately suffocate without plants, and a planet without animals would deprive plants of basic ingredients for photosynthesis. The overall balance between the number of organisms from the animal and plant kingdoms is one of life's more astounding phenomena.

Ever since the differentiation of these two forms of energy gain, relatively soon after life was created some 4000 million years ago, those two enormous and highly diverse groups functioned as mutually dependent partners. Nine-tenths of evolution took place in water: The first organisms were unicellular plants and animals that adapted to the myriad of opportunities in the seas. Then, about 1800 million year ago, multicellular organisms arose; they were composed of ever greater numbers of individual cells that remained attached to one another rather than separating after cell division, forming increasingly larger colonies and featuring a division of labor (Fig. 3). These multicellular organisms – some being plants, others animals – were initially restricted to aquatic habitats. Only about 400 million years ago did some plant species conquer land, soon to be followed by animals. The continents were soon populated, but the above-mentioned fundamental interdependence of fauna and flora remained. Again, sentimental human interpretations about the struggle for life are misguided. The overall evolutionary process is promoted when an animal consumes a plant or when one animal preys upon another: only the most adept and able individuals and species escape their predators and survive, leaving the most fit to reproduce.

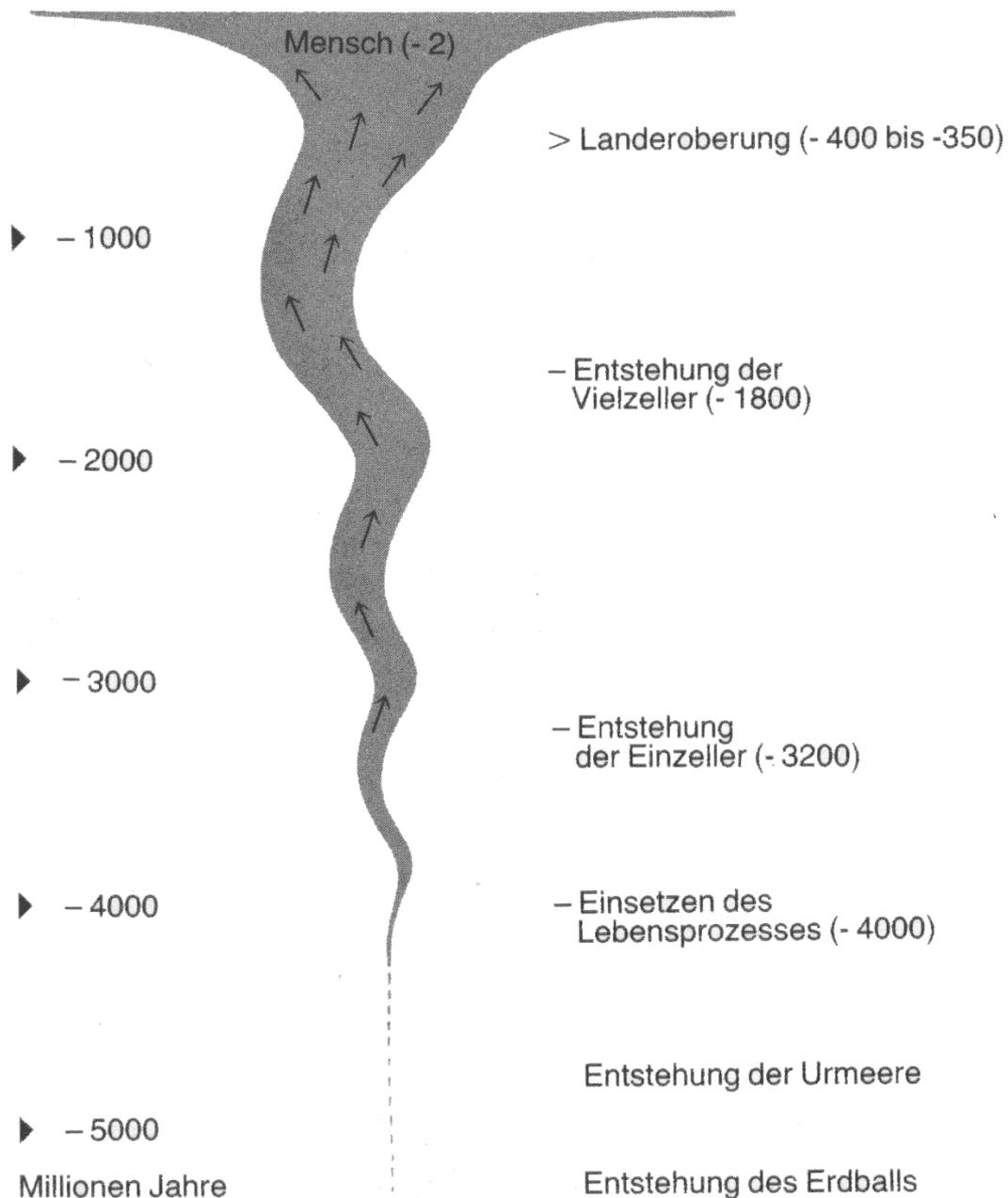


Fig. 3: **The dynamics of the evolutionary process** (highly schematic). We now believe that life began in the shallow-water zones soon after the development of the hot ancient seas about 4000 million years ago. Initially, the process involved tiny molecular structures that were capable of replicating. The most suited types survived, enlarging and improving these earliest life-forms, which ultimately yielded the first unicellular organisms. The development of multicellular organisms marked a second highlight. Land was first conquered 400 million years ago, and humans arose about 2 million years ago. More than 90% of the evolutionary process therefore took place underwater. Overall, this development can be likened with a river whose power and volume gradually increases over Earth history. Human technology contributes considerably to its ongoing expansion. Fluctuations in volume are omitted here. (compare Figs 10 and 20). After H. Hass 1985.

(Mensch...human, Landeroberung...hand conquered, Entstehung der Vielzeller...first multicellular organisms, Entstehung der Einzeller...first unicellular organisms, Einsetzen des Lebensprozesses...origin of life, Entstehung der Urmeere...origin of ancient seas, Entstehung des Erdballs...origin of Earth, Millionen Jahre...million years)

Understanding this constellation is essential for the further deliberations in this book because it enables us to see things as they are. This second premise should force us to recognize that *all* animals gain energy in the same principle manner: by acquiring foreign organic structures and exploiting the useful energy they contain. The human body is no different.

3rd Premise:

Predatory energy gain requires efficient movement control mechanisms

Had humans, as was long thought, taken their place on this planet independently and entirely separately from other organisms, then it would be superfluous to more closely examine the predatory activities in the animal kingdom. But we have, in fact, arisen from their circle and, measured in geological timeframes, we split off and surpassed them in the not too distant past. We can therefore profit enormously by examining the many behavioral strategies developed by our animal friends.

To begin with, some animals – both in the past and in the present – obtain their prey without any particular effort (much like some people have food handed to them on a plate!). A prime example is the tiny coral polyps responsible for creating the gigantic reef structures in tropical seas. They are firmly attached and rely on water currents to sweep microscopic life forms directly to their mouths “free of charge”. Once such a planktonic organism brushes against the ring of tentacles surrounding the mouth, small cells in the tentacles discharge tiny poison darts that paralyze and secure the prey. The tentacles then transport the plankton through the mouth opening into the sac-shaped gut, where it is digested. In our terminology, the cell association known as a coral polyp extracts the energy stored in the molecules making up the plankton that ventured a bit too close. The indigestible remains are ultimately returned to the sea through the mouth opening.

This highly effective feeding strategy has enabled these simple polyps to survive to this day. 1200 million years ago, similar sac-shaped organisms gave rise to the first worm-like creatures that crept over the bottom or through the sand in search of prey. These forms developed a posterior opening of the digestive tract so that the mouth no longer needed to double as an anal pore (Fig. 4). Several such worm-shaped groups ultimately gave rise to the first fishes (urochordates and jawless fish) that swam with long, soft fins that developed from skin folds. Some of these fishes, which continued to evolve and radiate, successfully conquered land about 350 million years ago and began to feed on the plants that had established themselves earlier. Gills proved to be inappropriate for gas exchange in this new environment because they dried out. Instead, breathing – which is necessary in order to digest food – took place in the highly vascularized tissue in the roof of the mouth. Over time, this tissue invaginated, forming sacs on both sides; these in turn underwent a folding process that eventually led to lungs. This development sounds fantastic, but can be irrefutably verified based on fossil remains, on comparisons with transitional forms that still exist today, and based on stages of our own embryological development.

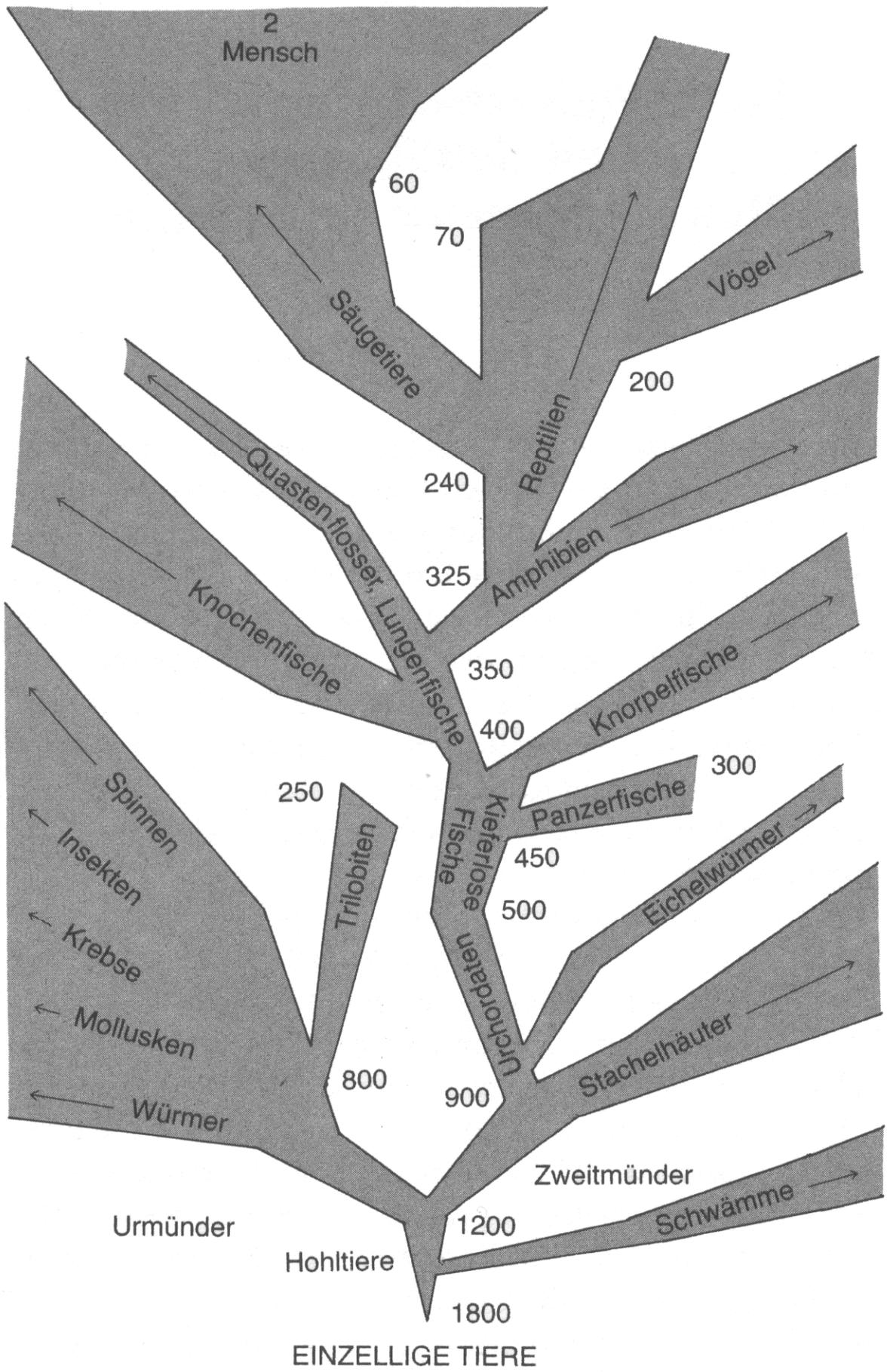


Fig. 4: The human phylogenetic tree (highly schematic). Nearly 1800 million years ago (compare Fig. 3), unicellular organisms gave rise to multicellular organisms: plants and animals. After the development of the cnidarians, the multicellular organisms split into two major branches of development: the protostomians and the deuterostomians. The latter gave rise, via worms, to the urochordates and jawless fishes, whose progeny eventually conquered land about 350 million years ago and developed into amphibians. These ultimately gave rise to reptiles, the reptiles to mammals and birds. Humans then developed from the mammal group. After H. Hass 1987, Vol. I.

(Mensch...humans, Säugetiere...mammals, Reptilien...reptiles, Vögel...birds, Amphibien...amphibians, Knochenfische...cartilaginous fishes, Panzerfische...armored fishes, Eichelwürmer...acorn worms, Stachelhäuter...echinoderms, Zweitmünder...deuterostomians, Schwämme...sponges, EINZELLIGE TIERE...UNICELLULAR ANIMALS, Hohltiere...cnidarians, Urmünder...protostomians, Würmer...worms, Mollusken...mollusks, Krebse...crustaceans, Insekten...insects, Spinnen...spiders, Trilobiten...trilobites, Knochenfische...bony fishes, Urochordaten...urochordates, Kieferlose Fische...jawless fishes, Lungenfische...lung fishes, Quastenflosser...coelacanth)

Thus, lungfishes gave rise to the first amphibians, which became ever better adapted to life on land, as did the plants they fed on. The reptiles, which lost all affinity to the original marine environment, arose from amphibians 325 million years ago; these, in turn, gave rise to mammals about 240 million years ago, followed some 40 million years later by the birds. A mere 2 million years ago, organisms with special mental capabilities appeared on the scene: our earliest ancestors and, ultimately, modern humans.

Before we discuss the features that fundamentally distinguish us from this ancestral fauna, it is helpful to examine how the psychosplit developed in humans. Specifically, what range of strategies does the wondrous animal world use to detect, pursue and strike their prey and transfer it into their bellies. Ethology, or comparative animal behavior, tells us that optimal foraging not only requires nimble limbs and sensitive sensory organs, but also highly developed mechanisms that control movement.

First: all active hunters must be able to isolate the relatively few prey-related sensory inputs from the overall cascade of incoming signals. The innate circuitry of their nervous systems must enable immediate responses to certain “key stimuli”.

Second: these key stimuli must trigger efficient predatory activity. Once the caterpillar reaches a suitable leaf, its body and feeding movements must be coordinated so that it can crawl along the leaf while biting off piece after piece. Once the predatory fish detects its prey, its brain must send coordinated commands to the respective organs to efficiently pursue, dispatch and devour it. The sensory inputs – vision, smell, hearing, touch, taste – must continuously control and correct the animal’s movements. This overall performance, which relies on innate circuitry and switches, is known as “fixed action patterns”. Depending on the prey’s features and behavior, these patterns can be quite differently developed.

Third: the animal must be motivated for the predatory action. This also applies to every other vital activity such as repelling enemies, mating and brood behavior. If no key stimulus that

signals prey is encountered over a longer period, then additional commands must motivate the animal to forage more intensively. This third complex is termed a “drive”. When food is involved, we name this condition “hunger”. This internally generated motivation increases the animal’s state of excitation, causing it to spend more time and effort to obtain prey (appetitive behavior). Once successful, these commands are switched off: the goal of the drive has been reached, the hunger stilled (consummatory or end act). For some specified period of time, the animal is free to deal with other vital functions. Drives can be likened to a parliament in which members successively rise from the bench and assume control. This helps the animal to fulfill its crucial functions in orderly fashion¹⁰.

All innate behaviors are known as “instincts”. This is nothing mystical, transcendental, or metaphysical. Rather, instincts are the manifestations of control mechanisms. Although these mechanisms are rooted in an exceedingly complex nerve network and we cannot perceive them as clearly delimited organs, they represent functional units as real as fins, eyes, the liver, or the circulatory system. In all multicellular organisms, the genetic make-up of the germ cells specifies precisely which organs the budding cell associations must build – and this also holds true for the innate circuitry that controls and coordinates the activity of the remaining organs as well as for the body’s overall instinctive response to its environment.

“Learning” is defined as the ability to modify, supplement, and refine innate programs – or to add additional ones – based on individual experience. Even protozoans can learn, and this capability has been perfected in the vertebrates. In mammals and birds, which are particularly talented learners, many innate programs have been reduced; here, the young exhibit a specially developed innate play behavior also known as curiosity behavior. This motivates them to actively engage their environment and to tailor the most important behavioral programs for themselves. The advantage? These animals act and react less like robots and can better adapt to the prevailing environmental conditions. The disadvantage is that such species are not born into this world fully developed, with insects being a prime example. This necessitates a commensurately high degree of protection and care – an additional, “expensive” drive known as parental care.

The response to key stimuli is crucial when we examine feeding in animals and humans. A very simple stimulus, one that triggers this behavior in sharks for example, is the smell of blood. It indicates that another organism is wounded and therefore less capable of escaping or defending itself – making it a trusty signal for the predator. Other fish species wait patiently for insects to fall or land on the surface of rivers or lakes. Here, mechanical vibrations emanating from the broken surface are key stimuli that activate attack behavior. In frogs and toads, optical stimuli trigger predatory behavior. A motionless insect will typically go undetected. As soon as it moves, however, the toad leaps forward and devours it.

Scientists have long used so-called dummy or surrogate experiments to demonstrate how simple or even primitive such key stimulus response mechanisms are. When sticklebacks spawn, for example, the sudden appearance of a rival male fish triggers threat responses and attack behavior in other males. In this case, the red stripe on the male’s belly is the recognition signal or, more precisely, the key stimulus. If the experimenter shows the male a cylinder that lacks eyes, fins or any other fish features but has a red stripe along the lower side, then this is sufficient to elicit the above threat and attack behavior. Simply turn the

cylinder over so that the red stripe lies on the upper side, and the fish shows no reaction. The control mechanism in the fish's brain therefore responds mechanically to the feature "elongate body with a red stripe below". "Recognition" in the sense of human insight plays no role at all.

Because such automatic reactions often elicit incorrect behavior in employees and businesses, I provide another often-cited example here: in turkeys, the frightened cheeping of chicks is a key stimulus for the mother hen to gather the chicks under her wing. Polecats are important predators of turkeys. Incredibly, installing a transmitter and speaker into a stuffed polecat, and playing back chirps of fright, triggers the hen to take the polecat under her wing. This convincingly demonstrates that such reactions have nothing to do with intelligence or insight.

Note, however, that many animals recognize their prey based on several key stimuli. Sharks, for example, detect a wriggling fish at the end of a harpoon over far greater distances and much quicker than based solely on the slowly dissipating smell of blood. This allows them to appear on the scene within seconds, even from distances of several hundred meters. The sequence of various key stimuli is also often crucial, for example in the courtship behavior of birds. This behavior can involve a "dialog" of key stimuli in which movement A in the male triggers movement B in the female, which in turn elicits movement C in the male, leading to movement D in the female.

A key feature in the present context is that the nerve circuitry of any animal capable of learning (a circuitry which initially responds innately to key stimuli) can be refined and its effectiveness improved. A young toad, for example, snaps at any small body that moves across its path. Such objects are usually insects, and the key stimulus therefore serves the amphibian well. If the young toad snaps at a wasp and is stung, it will never again snap at small moving objects with transverse stripes: the response to key stimuli has become more differentiated and therefore improved. Most learning processes are based on this principle. The term "conditioned reflex" describes the situation in which an animal associates impressions that *precede* some event, such as feeding, with that event. Thereafter, the preceding impression itself is sufficient to trigger the feeding behavior. This "conditioning" process, which underlies many learning processes and leads to the psychosplit in humans, will be treated in detail later.

Fixed action patterns (instinctive movement triggered by key stimuli) are a similar phenomenon. They can also be changed, improved, or made more effective through learning. In many birds, for example, the basic movements involved in flying are innate, but practical experience is needed to read the wind and safely alight on different substrates or objects. Adult lions or foxes hunt more efficiently than younger conspecifics, and this represents an early stage of "insight behavior", i.e. exploiting experience. This ability is particularly highly developed in humans and forms the basis for higher-level, intelligent behaviors.

"Drives" form the third large component of innate behavior. They are autonomous and immutable and ensure that animals function according to intended programs. Although they can be changed only minimally through learning, we can partly rein them in, briefly suppress them or even purposefully reinforce them (human sexuality, for example), but never eradicate them entirely. As Freud determined in humans and Lorenz later in animals, unrealized drives can lead to "vacuum activity" or cause behavior to "shift tracks". Thus, Lorenz observed that a

well-fed captive starling fluttered through the air and, although no insects were present in the room, snapped at “imaginary” insects. Its hunger was stilled, but the innate impulse to hunt flying insects had not been satisfied and was manifested as “vacuum behavior”. When two roosters fight with one another – and aggression and fear are equally balanced – then the opponents often intermittently peck the ground as if they were looking for seeds, although this in no way fits their momentary situation. Such “displacement activity” is another mechanism of releasing bottled-up distress.

Humans display similar behaviors in waiting rooms or other settings: their impatience leads them to scratch their heads, pick their noses or let off steam by smoking or munching on something. The terms “displacement scratching”, “displacement nose-picking”, “displacement smoking” and “displacement eating” have been coined to describe such activity¹¹. Freud held the opinion that certain persons who are unable to exercise their sexuality “sublimate” this distress in artistic activity. Here, one instinct prompts activity in an entirely unrelated realm.

Fear is the mirror instinct to the feeding drive. It helps prevent an animal from falling prey itself. This time the prey must recognize the predator based on certain key stimuli and then react appropriately by fleeing, hiding or defending itself. This instinct is the “inner voice” warning against potential danger, for example of venturing into places where it is prone to attack. Clearly, opposing drives like hunger and fear influence one another. Very hungry animals are more likely to exhibit risky foraging and feeding behavior. Conversely, high fright levels will tend to dampen normal predatory activity.

Drives are therefore at the core of every instinct. In a highly complex machinery they direct actions and reactions, motivating the animal to act as needed in that phase of its life. The response to key stimuli can be refined through learning, or be displaced to completely different stimuli. Fixed action patterns, which the animal can improve and adapt to its specific environmental conditions through learning and experience, are also changeable. The difference between specialists and generalists, i.e. animals with very specific feeding types (such as mosquitoes) versus those with a varied diet (wild boars or monkeys), will be discussed in detail later.

The important point in this chapter is that every behavior is based on control mechanisms in the brain; these programs either developed like any other organs through genetically predetermined differentiation of cells, or thereafter through learning processes in the brain. They are exceptionally small, operate somewhere in the astounding maze of the nervous system and are less easily delimited than a bone, heart or eye. Nonetheless, they clearly represent – like all other organs – functional material units¹².

4th Premise:

The unique feature in humans – we develop additional organs

This book by no means belittles humankind or questions our inherent dignity. It fully acknowledges the significance of the great works of art created over the millennia. It fully recognizes the technological advances that make us so far superior to our animal friends. The ethical components of our existence will be examined more closely in later chapters. In fact, this book strives to show how we can bring the beliefs, morals and ethical ideals that we hold dear closer to fruition, albeit not along the well-trodden, traditional path.

Based on fossil finds and observations of remote splinter groups of indigenous people who continue to live very primitive lives, we can quite accurately reconstruct the early human condition. What particular feature allowed our earliest ancestors to outstrip their relatives in the animal kingdom – ape-like forms – somewhere between 4 and 2 million years ago? Our highly developed intelligence was clearly a key factor. Our brains grew in size and the increasing diversity of controlling ganglion cells boosted our ability to link cause and effect, even when these were widely separated in time and space¹³.

More highly developed animals – those clearly capable of learning – can also recognize cause and effect. This underpins the “conditioning” process that improves their reaction to the environment. If an animal innately recognizes its prey based on a visual key stimulus, and if it learns – as an additional characteristic – that the prey’s movement creates a specific sound or that the prey prefers a certain water hole or other location, then it can link this new insight with the key stimulus. The animal has discovered new features that betray the prey’s presence. It can then use these to increase the efficiency of the hunt.

Whether such new links enter the animal’s consciousness or merely expand and improve purely mechanical reactions remains unknown because we cannot speak with the animals. There is clear evidence, however, that at least higher mammals can draw conclusions that very closely mimic conscious human thought. If a chicken sees seeds on the other side of a long fence, it will attempt to reach them through the meshes of the fence. Even if the seeds are out of reach, the chicken will continue to pursue the same unsuccessful strategy. Conducting the same experiment with a dog, whose mental capacities are considerably greater, yields a different result. If the meat is far enough away and the olfactory stimulus not overwhelming, the dog will break off its initial tactic after a few unsuccessful attempts and run up and down the fence until it finds a hole or the end of the barrier: it reaches its reward *indirectly*. In this and many other examples of animal intelligence that do not involve innate capabilities, we are clearly confronted with something closely approaching the human ability to “draw conclusions”.

Wolfgang Köhler very elegantly demonstrated where the decisive advance over the animal brain lies. His well-known experiments with chimpanzees, which date back to 1921, are

central to our topic and therefore more closely analyzed here. Chimpanzees are among the most intelligent vertebrates. Köhler confronted his experimental animals with the task of reaching bananas suspended from the ceiling of a cage. The tools at their disposal were an extendable stick consisting of sections that could be inserted into one another and empty crates that could be stacked on top of each other. The sections of the stick and the crates were strewn about the cage. Only a few of the animals were able to solve this problem. Köhler observed how the chimp struggled with the solution: it manipulated the sticks and crates, became enraged, gave up, began to again play with the various elements, until it ultimately succeeded.

Another particularly insightful experiment confronted with chimps with the same task, yet with the difference that the cage was connected with other cages by passageways. This time, the elements needed to solve the problem were distributed in the different cages. None of the experimental animals was able to reach the bananas. Why? Apparently because the animal brain can only recognize cause and effect when these are more or less simultaneously present in the animals field of view. This clearly demonstrates the special status of the human brain. We have developed a unique nerve structure that can perhaps best be compared with an internal projection screen. We call this our "powers of imagination", our "fantasy". Much like a whole film festival can be projected on one screen, we can use this unit lodged somewhere in our cerebral cortex to interlink and therefore compare virtually every memory that we have stored, every experience that we have made. This enables us to "hatch plans", i.e. to design and make dry runs through programs of potential actions and reactions. All this is possible without taking a single step or lifting a finger. This fantasy projection screen allows us to deliberate the consequences of specific actions, determine what difficulties might arise, and how these might be avoided. In short, is the plan worth carrying out or would it better be discarded. What an enormous advantage it is to theoretically examine different solutions to problems that confronted us! The more experience you have, the better you can avoid ineffective actions – a considerable energy savings. Perhaps most importantly, critical mistakes are more likely to be discovered in advance and avoided¹⁴.

This particular capability was clearly less well-developed in our early ancestors than today. Each advance in this direction – through changes in our genetic information storage system – means a distinct advantage in both our predatory behavior and our predator-avoidance behavior. Biologists refer to this as a selective advantage. Our internal projection screen underwent continuous development, leading to an improved "intelligence". The first phase of this intellectual game probably simply involved linking environmental impressions with one another and then drawing modest conclusions for a planned behavior. This gradual development ultimately led to stage in which our own bodies and our own activities became incorporated into the "movie". The "self" became the lead actor who strove to achieve a particular goal and that was quite naturally the focal point of this combinatory game of fantasy. We came to view ourselves as an "object" with a status equal to that of animals, trees, cliffs, rivers – or other humans. As opposed to many, I do not consider the development of human "self-awareness" to be such an exceptional leap forward or to be such a fundamental feature. During development, every child initially concentrates on sounding out the environment. Then it begins to see itself as an object, for example when its name is "Billy" and it refers to itself as "Billy". Ultimately, the object "Billy" becomes "I".

How did humans apply this particular ability?

Looking back at the first three premises in this book – first on the significance of energy gain for all organisms, second on the fact that all animals gain their energy by predatory means, and third that this requires movement control mechanisms – then the evolutionary answer to this question is clear and simple. More advanced animals efficiently improved their innate foraging behavior by developing better or new control mechanisms. This learning process considerably boosted their ability to survive “natural selection”. Such additional programs enabled them to outcompete any rivals lacking this ability. Coupled with the projection-screen fantasy mentioned above, humans became unrivaled. Ineffective activities could be rejected in advance, risks avoided. Beyond merely improving the body’s behavior, we actually improved the body itself. How? *By developing additional, artificial organs* (Fig. 5).

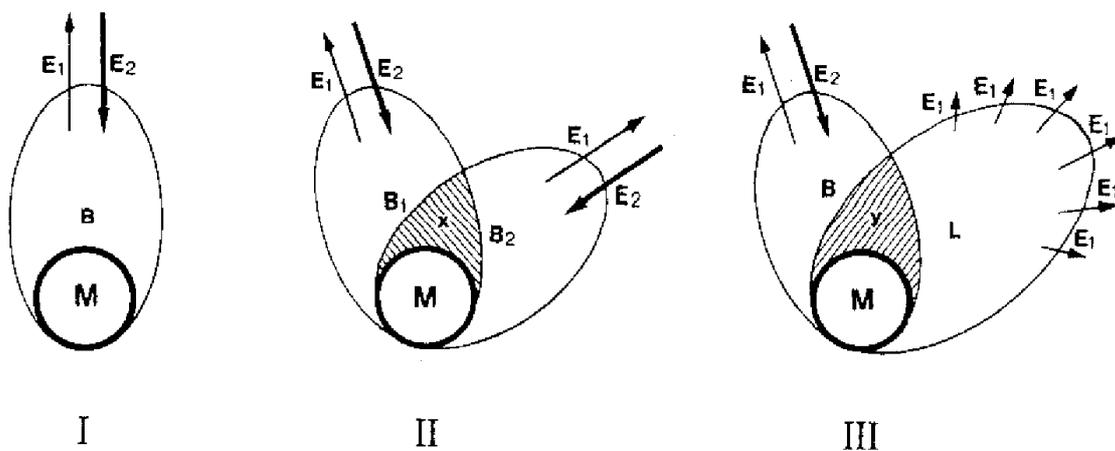


Fig. 5: Increased performance of the human body. Human were the first to purposefully design and form additional organs that helped attain special capabilities. I shows a person (M) with all the additional units necessary to carry out his or her profession, i.e. the professional structure (B). The energy balance must be positive regardless of whether food is acquired through predation or through transactions. The energy expended (E1) must yield an even greater energy uptake (E2). II: A human being can also be the central element in two (or more) professional structures. III: If the surpluses exceed the energy required to merely maintain life, then luxury structures (L) can be formed, which require energy expenditures. Certain additional organs can be utilized in more than one profession (x) or also for luxury purposes (y) – for example an automobile. See text for details. After H. Hass 1978.

Subjectively, we tend to consider such artificially created entities, for example weapons, tools, clothes and buildings, as something that does not belong to our bodies, even though they clearly improve the body’s capability and survival potential. I argue that this appraisal is a misjudgement.

Clearly, these additional units differ from our body organs in not being composed of cells or cell products. This is a disadvantage from the perspective that the cells of our body organs – our skin, hair, blood vessels, bones, etc. – not only form the organs but also continuously maintain, control and even replace them. None of these processes are relevant for a newly

fashioned spear, for example. The same holds true for a hut or a bag fashioned from animal hides. On the other hand, such additional organs have the eminent advantage of not requiring a steady supply of energy, as the cellular organs do. Their upkeep is therefore much less costly. They can also be repaired or even replaced entirely without major difficulty – which does not hold true for our fingers, liver or eyes. Although cells are incredibly versatile, even self-renewing structures, they are also very demanding and have limited abilities. While many can redifferentiate themselves to assume entirely new functions, they will never be able to form organs made of metal – the very structures that so crucially influenced human development – because cells are unable to operate under the temperatures necessary to work metals.

Another difference is that our nerves do not extend into these new, additionally developed units. Our brains therefore fail to receive direct nervous input about their immediate performance and the problems and dangers they encounter. If, in our absence, our house, our tools or the sheets that keep us warm at night fall victim to flames, then no warning signals reach us and we lose those additional organs. On the other hand, our sensory organs can compensate for this lack of direct input. Our hands very reliably feel when the tools we use to dig for edible roots hit a rock. Our eyes very satisfactorily perceive whether the hurled spear has hit the prey or not. The tailor's hand and needle, or the hairdresser's hand and scissors, clearly form a perfectly integrated entity. Even though our nervous system does not extend into these units, it does control them perfectly. This interplay can be observed in every craftsman and in every factory.

A further disadvantage of organs that are not integrated into our bodies is that they can easily be lost and, above all, easily be stolen. The latter is particularly relevant because it means that the knowledgeable thief can put them to equal good use as the original owner did. The lizard, however, cannot fly with the wings it bites off a dragonfly. The substances an animal consumes can only be broken down and rebuilt as the body's own structures – a process that entails a 90% loss of both material and energy. The additional organs, on the other hand, continue to serve without being altered in any way. Entire industries have therefore arisen to protect such organs. At the same time, the key advantage is that they can be put aside and do not burden the body when not in use. Animals must carry all their organs about with them at all times. The same holds true for natural human organs, but our tools, clothes or weapons can be used as needed and then put aside.

An additional advantage: we created additional organs that no animal could ever have developed. No nail-clipper or gun could grow at the end of an arm, not least because the disadvantages (impaired normal function) would have far outweighed the advantages. No cellular carriage or beer keg would have survived natural selection, which ruthlessly weeds out everything that does not boost fitness or hinders further development. Moreover, detachable organs are *exchangeable*. When our hand reaches out for a knife, then we are specialized for cutting. If we grab a hammer, then we are specialized in hammering in nails. When our fingers play a violin, then we have become specialized to create musical sounds. From this perspective, our ancestors, the apes and monkeys, appear in a somewhat better light. After all, their climbing activity in trees ultimately gave rise to our exceedingly versatile grasping organ with its opposable thumb. Without our hands, our highly developed brain would be of little use to us because we would be unable to implement what our minds

devised. Dolphins also have a very highly developed brain, yet their rigid fins will never allow them to make or use a pencil. While perhaps curious, these arguments underline the essential, irrefutable message¹⁵.

Based on their diet, our early ancestors belong to the large group of universalists that feed on a wide array of food items. Mosquitoes are an example of the opposite strategy. These specialists have highly developed piercing and sucking mouthparts and equally highly developed movement patterns – both geared to a very narrow diet. These insects are perfect at their job and need fear no competitor. Nonetheless, they suffer from the same drawback of all specialists: If their source of food is lost, for example if all the animals that attract blood-sucking insects die off, then the monopoly was for naught and the insects are doomed. Universalists have much less precise programs and feeding organs, typically forcing them to share their niche with numerous competitors. On the other hand, they are much more adaptable to change. If one source of food disappears, then they can shift to another. With the advent of humans, evolution gave rise to *the first specialist in versatile specialization!* We have remained universalists, although we now apply our additional organs to achieve extreme specialization in our chosen lines of business. And no one form of specialization disturbs the other because the additional organs are not fused with our bodies and can be put aside at will¹⁶.

Further advantages: Additional organs need not necessarily be produced by the individual user. Several persons can combine forces to create such an organ, and they can then use it alternately or proportionally. This gave rise to large communal organs that benefited many persons, such as roads and bridges or the railroad, where users pay a certain fee. The post office, the canal system, the opera – the latter as a communal organ for luxury and art pleasure – as well as schools, libraries are additional examples. This approach is the only one that can effectively help protect our additional organs from theft. Certain members of the community specialize in this task – the remainder can then pursue their various endeavors in peace. In their central, original function, states are gigantic communal organs that citizens support through taxes and whose national defense systems shield the property of its members from predatory neighbors. In practice, such organizations assumed many additional functions, not always to the benefit of their citizens. Their key role, however, is to protect all the additional organs that so immensely empower our biological bodies but that so easily fall prey to theft.

Natural organs evolve only very slowly through the process of genetic change (the evolutionary history of our eyes lasted over 700 million years!). Additional organs, however, can be developed incomparably quicker (examples include the automobile, television and the computer). Moreover, certain individuals within society can specialize in their production, allowing them to manufacture the goods in better quality and at cheaper prices. This constellation became the very foundation of business and industry. Human culture and all luxury items are also largely based on additional organs (or even entirely so if the relevant behavior programs – which are also additionally created organs – are also counted to those that can be put aside). Whether it be culture, art, sports, tourist facilities, information transmission, magnificent buildings – *none would have ever been created via cell differentiation!* Finally, our additional organs have the key advantage of *not perishing along with the death of their owners*, as do the natural organs of animals and plants when they die.

Additional organs can be utilized with no particular loss in value by heirs or other persons, i.e. they can serve other “capable entities” that continue the evolutive process. This is the very cornerstone of industrious nations. Biological bodies come and go, but the available potential of private and communal goods continues to grow. From this perspective, we have entered a new evolutionary phase in which humans are germ cells that construct and control larger, sometimes globally spanning life structures that continue on after our deaths¹⁷.

The third pillar of human progress, beyond our highly developed intelligence and versatile hands, is the ability to communicate using language. This additional brain function, which evolved parallel and in close correlation with the development of thought and logic, enabled each generation to build on the trove of knowledge amassed by preceding ones. Acquired capabilities could therefore be transmitted, a process much promoted by the written word¹⁸. Every human child therefore inherits a tremendous gift from an anonymous throng of long-deceased ancestors: the fruits of their experience and labor, the quintessence of their ideas and advances.

If visitors from outer space were to observe our planet and were interested in the evolutive process, they would determine that, in a first step (about 3200 million years ago), tiny unicellular organisms developed. Their even tinier organs (organelles) already showed a wide range of capabilities. This enabled these pioneers to adapt and spread into the various aquatic habitats. About 1800 million years ago, in a second step, some of them began to form colonies and most life functions were *assumed by multicellular organs*, which considerably improved efficiency. Certain organisms successfully conquered land, and life ultimately expanded across the continents. The third developmental step began only 2 million year ago. Its distinguishing feature? One terrestrial multicellular organism formed additional organs that were not fused to the rest of its body. This enabled it to specialize almost limitlessly. In a colorful juggling act, this creature applied one, then the other additional organ, creating energy surpluses that it plowed into an enormous range of business endeavors and luxury items. In the meantime, human interrelationships have reached an unparalleled diversity and continue to change unabatedly. Each one of us must search for direction in this raging torrent, where friend and foe seem to change at a moment’s notice. No uniform direction is currently in sight.

5th Premise:

Human intellect initially promoted our instincts

In the first two million years of nascent human intelligence and language, there was virtually no conflict between our innate instinct control mechanisms and our new, intelligence-driven mechanisms (which were used to produce and effectively apply additional organs). The two operated closely hand in hand: our drives continued to lay down the direction, and our intellect created ever better, new organs and methods to achieve those goals, whether they

be hunting down prey, fending off enemies, mating, brood care or building community cohesiveness.

This is important because logical thinking and self-awareness are traditionally held to be a stupendous new stage in the human evolutive process – the decisive innovation that separates us from all other animals. We tended to think we were unique based on ethical, moral and aesthetic valuations. While these traits were no doubt actually present, over long stretches – at least as far as the fossil record is concerned – they played a rather subordinate role and our instinct-driven behavior dominated.

These considerations help explain why the first premises of this book have placed such emphasis on energy gain. After all, to what end did our ancestors apply their capabilities in the two-million-year-long period in which they lived as hunters and gatherers and then as farmers and livestock breeders? The answer is simple: they mostly strove to improve their acquisition success. On the one hand, this was the prerequisite for all life functions; on the other hand it reflected our attempt to make life more pleasant and thus to promote whatever provides us with pleasure in one form or another.

It is instructive to note that all our drives are controlled by what zoologists refer to as the “pleasure-pain principle”. Again, we cannot definitively say whether this pertains to animals as well because we are unable to communicate with them linguistically. Nonetheless, it is highly probable that they – like humans – associate “hunger” with negative inner sensibilities that they try to avoid, and that feeding imparts a positive sense of well-being. This is equally true for sexual drives or for the drives related to security, brooding (protecting and raising children) or “impressive” behavior (striving for admiration or a leadership role in the community). In reality, it is technically impossible to create a motivation that isn’t based on reward and punishment – on unpleasant feelings when drives remain unfulfilled and on pleasant feelings when fulfilled.

In animals, the above are all components of instincts, much like the innate nature of recognition and movement. Humans, on the other hand, used their additional organs to gradually gain the upper hand on animals and therefore win more time for leisure and cultural refinement. We did more than simply produce these organs to be as effective as possible: we also geared them to create positive inner feelings that satisfied both our innate drives and our new-found habits and traditions. Human aesthetics, which no doubt arose from delighting over well-formed human bodies and then progressively shifted from the natural to the additional organs, began to exert an influence on the design of our clothes and jewelry, but also on our tools and buildings¹⁹. The pleasures we derive from eating and drinking were intensified by various forms of food preparation, spicing and gastronomic culture. The joys of conviviality, exchanging ideas, chatting, flirting, and celebrating feasts began to determine the course of daily life. Questions related to the meaning of life were ultimately raised and guidelines had to be established to maintain order within society. This is one explanation for many of our religious concepts: they promoted cohesion within the group and favored the development of customs and mores. It may also help to explain why these features, once created and established, are difficult to disprove. Simply put: the basic elements of human “culture”, as abundantly documented in archeological finds, had begun to fall in place during this period. Throughout, technological-economic progress was a prerequisite and centerpiece

for all these phenomena. Perfect harmony between the innate and learned behaviors governing our predatory pursuits or, more precisely, our energy gain, also played a crucial role.

We continued to refine our hunting and gathering methods. One decisive advance was the taming of fire to cook and stew our food. Better taste was only one advantage. The primary benefit of cooking food is that the heat weakens the cell walls of both plant and animal foodstuffs and makes them more digestible. The molecules are easier to break down, enabling us to extract the energy from their chemical bonds, giving us to better access to useful components. This helps us extract more from the food we eat. Of course, the many methods of preparing food also helped make eating a pleasurable and palatable leisure experience.

A key issue is the degree to which our innate instincts either harmonized or collided with our intelligent control mechanisms over this two million year period. More closely analyzing the nature of those innate programs gives us an answer.

As we all know, drives – as the core of all instincts – are no less well developed in humans than in animals. Konrad Lorenz even considered our drives for food and sex to be more strongly developed (“hypertrophied”) due to “human self-domestication”, i.e. humans use this strategy to shield themselves and their domestic animals from natural selection²⁰. Whereas reproduction in animals is bound to certain clearly delimited times, humans remain active and interested throughout the year. As far as eating and drinking are concerned, the affluent increasingly became confronted with the problem of eating too much rather than of procuring enough food. In humans, brood care expresses itself in affection for children and in efforts to raise them accordingly. Our drive for security appears to be hypertrophied as well, probably promoted by our powers of imagination. Among the social drives that play a role in all pack-forming animals, the best-developed drive – alongside the joy of conviviality and a certain readiness to lend help – is the human desire to impress others. This “impressive behavior” helps determine the rank we enjoy in the community or the potential leadership role we can assume.

In humans, the innate control mechanisms for movement are reduced, at least compared with other “higher” animals. The period in which our children, who are long unable to fend for themselves, develop the control mechanisms for their future lives exceeds that of all other mammals. This period – driven by play instincts and curiosity and nurtured by parental support – requires commensurately long parental protection or “brood care”. Infants still show innate behaviors, such as the instinctive search for the mother’s breast, the sucking behavior (which need not be learned), and holding on tightly to the mother. This is accompanied by numerous innate actions that constitute human mimicry, such as yawning, coughing, sneezing, etc. In the framework of the central questions this book poses – how can humans lead more efficient professional lives – the ultimate issue is the degree to which innate key stimuli affect our decisions and actions. Specifically, do innate tendencies influence the way we go about business and, if yes, how?

We can briefly skip over some of the more trivial stimuli, for example that “sweet” indicates the presence of sugar and that sugar is a particularly easy energy reservoir to tap. We therefore react positively to sweet tastes, whereas a bitter taste, which characterizes certain

poisonous substances, repels us. Green tends to exert a positive attraction because it is associated with plant growth and habitats suitable for humans. Red can be construed as warning us of fire, perhaps helping to explain why traffic lights use the green signal for “drive” and red for “stop”. The babbling sound of running water is pleasing to our ear – a key stimulus that appeals to our sense of thirst. My thesis, however, places greater emphasis on the more general activities and behaviors triggered by key stimuli, even in today’s much altered world.

From the evolutionary standpoint, humans are “universalists” or, as the zoologist would say somewhat dryly, omnivores. Whereas specialists react to very precise key stimuli with very precise chains of action, this is less the case in universalists. Are the general innate tendencies that direct animal predators also valid for universalists²¹? This leads to the heart of the matter. In my opinion, such fully functional, genetically anchored tendencies do exist in human beings, but they have failed to generate interest or scientific study because they appear to be self-evident or even “trivial”. I argue that at least five such tendencies exert a major influence on us.

First, almost every animal follows the maxim “Only your advantage counts” when hunting (the incredible variety of animals means that exceptions will exist for nearly every function). How could we expect anything different from predators? If a mutation gave rise to a new species whose inner voice during the hunt whispers “be nice to that leaf, bite off only a small piece” or “have pity on that antelope, especially if it cries plaintively”, then this species will succumb to the competition. Regardless of the predatory strategy, consideration – in the sense of human morals – is clearly out of place. Gaining energy by consuming the components of other organisms is neither simple nor altogether harmless. Precision is required to avoid injury if the prey puts up a fight. The predator also risks falling victim to another predator when it focuses all its attention on the predatory act. “Pity” of any kind would be deadly.

Second, only few animals such as coral polyps are lucky enough to automatically and regularly have food delivered directly to their door. In my opinion, every animal must therefore optimally utilize every opportunity that arises. For example, animals tend to bridge adverse conditions by storing food reserves, particularly in the form of fat. Some species have developed highly extensible stomachs to optimally utilize animals they have consumed. Others have developed behaviors that allow them to hide and store prey that is too large to be consumed immediately. What advice, in human terminology, could we formulate about this innate control, which is designed to maximize gain (and might be called “greed”)? “Utilize your chances optimally. Amass as many goods as possible, if only to make sure that some competitor doesn’t steal them from you.”

Third, predators must save energy whenever possible. The motto here is “the more precise your action, then the fewer your poor investments and the lower your own risk of falling victim. The quicker you complete your job, the better. And keep an eye on the competition. The greater your income and the lower your expenditures, the greater your profits (your chances of survival). Therefore, save wherever you can.” We know little about how such instinct commands are coded, but there is no denying that such general instructions are at work in most animals. Birds learn to more effectively peck at seeds – they try to reduce their error rate. Whenever a predatory act is enriched by new experience and additional key stimuli,

the mechanism controlling that behavior will improve. Avoiding ineffective exertions clearly improves energy balances in both innate and learned behaviors.

Fourth, “pay attention to what the competition is doing” is a key instinct command that can be demonstrated in many animals. They tend to be the toughest rivals because they rely on the same food source. Action must be taken to drive such rivals away from one’s own territory. Rivals converging from all directions usually means that prey has been discovered. If, on the other hand, they all scatter as quickly as possible from some point, then the correct interpretation is “caution, danger!”. The ethologist terms this infectious behavior a “herd instinct”. Competitors that have spotted prey and prepare to attack have spared others from doing this work: those that are quick enough might get their share first. This tendency is so pronounced that some animals, birds for example, have developed innate mechanisms to make off with their competitor’s prey. Even if this is not always successful, it at least provides an opportunity to get a free lunch. This strategy leaves the strenuous pursuit and kill to others. Once the battle is over, the competitors enjoy a golden opportunity to participate uninvited and with great appetite at the set table.

Fifth, a particularly important inner command common to most animals is: “Beware! Don’t trust anyone or anything. Even if the morsel is yours and merely needs to be devoured quickly, cast at least a brief glance in all directions!” This typical behavior is reflected in innate movement control mechanisms that “secure” the food. Feeding animals, whether they be herbivores or carnivores, intermittently look to both sides and over their shoulders. This fright reaction has only few exceptions on our planet, for example on the Galapagos Islands, where tourists with their cameras can approach birds and other animals to distances of one meter. The lack of larger predators on the islands has gradually reduced the innate preservation instinct of the island’s inhabitants. This also translates into less movement and reduced energy expenditures. Innate tendencies that prove to be superfluous mean superfluous effort, and such expenditures can be spared.

Advice that comes from deep within and that in one way or another influences the actions and reactions of most animals is also important for omnivores, which react reflexively to a reduced set of key stimuli. Unsurprisingly, these innate tendencies are deeply and firmly engrained in humans as well. For one because they are virtually omnipresent in the animal world. And, secondly, because they were no doubt quite relevant for our ancestors. Finally, from the evolutionary perspective, it would take quite a long time for such a general command to be recalled; this would require very specific conditions such as those on the Galapagos Islands (fear of predators lost, see point five above). Elsewhere, this reaction is universal: in every deer that we startle if we approach closer than 100 meters, or even in the much-feared sharks, which themselves show fright and avoidance behavior when approached rapidly by a diver. All try to hide or somehow make themselves invisible.

Over the two million years in which our ancestors lived as hunter-gatherers and gradually shifted to farming and livestock breeding, this inner, general advice was perfectly compatible with the intelligent control mechanisms that helped us acquire food using additional, man-made tools and weapons. Whether the task was to pick fruit and berries, to tease insects from their hiding places, to rouse rabbits from their dens and kill them, or to finish off large wildlife in organized hunts with beaters: in every case, any form of pity for the prey once it was

discovered and cornered was entirely out of place. Rather, the strategy was to use and secure as much of the captured organic substances as possible, either by eating it yourself, bringing it back to the group, burying it (for example eggs or edible roots), drying it, or smoking and curing it (pieces of meat were hung high up in trees to prevent ground-living scavengers and predators from reaching them). The goal in every case was to continuously improve hunting and gathering skills: every trick, every deception translated into progress and additional advantage. Additional examples include the camouflaged pits still used to capture big game animals in Africa today or the snares and traps we employ in our latitudes. Poisoned arrows continue to be used by many indigenous peoples to this very day. Bites aimed at specific weak spots of prey animals belong to the innate repertoire of many predators. Analogously, early hunters had to gain very detailed anatomical knowledge to speed up and simplify the kill, to use the best trick and the least effort to minimize or eliminate the prey's resistance.

From a subjective, human viewpoint, we tend to view farming and animal husbandry as something quite noble, even highly "environmental". Countless poems herald the farmer and his harvest, Mother Earth and her bounty, as well as the gentle disposition and selfless contribution of our domestic animals. Those who can get up the courage to look truth in the face will have to admit that hunters, who had developed into a super-killers even in the hunter-gatherer period, clearly outdid themselves again in switching to these practices. Farming means that all non-food plants are "cleared" and every annoying "weed" is eradicated. Fences and scarecrows are designed to ensure that no competitors reap the fruits of our hard labor. If managed in this manner, a small area can yield as much food as extensive forages in the past. The yield is further increased with fertilizers and by breeding high-yield, good tasting species. This led to grapevines and fruit trees that produced much larger and sweeter fruit than required for normal plant reproduction (which is, after all, the role that fruit plays in the plant kingdom). I mention this not to condemn the human race, but merely to determine, in a sober and detached manner, how one predator continuously simplified its predatory act, continuously improved its harvest, and continuously perfected its energy gain.

The situation is even more brutal if we take a close, honest look at animal husbandry. The particular achievement here is to keep captured animals alive (instead of killing them outright as in prehistoric times), and then feed and fatten them until the need arises. At this point they can be killed without great effort or resistance. Ranchers may well develop a certain bond with the animals they raise, much like farmers towards the crops that thrive under their hands. This situation, however, in no way hinders the latter from reaping the grain or the former from killing and eating the fattened cow. Humans long held the firm belief (and many still do today) that they were either created or put on this planet as "the Chosen" by higher powers, and that the rest of nature merely serves as a backdrop and arbitrary source of food. Such conceptions are easy to understand, considering that humans generally tend to view themselves and their deeds in a friendly, favorable light. From the evolutionary perspective, however, we are dealing with creatures that used additional organs to specialize in virtually every conceivable type of performance and that surpassed, a thousand fold, any other animal that had ever imposed its will or wrought havoc. Note here that evolution was never a very squeamish process to begin with and that life, if one can personify the phenomenon, never exerted an influence on what promoted it and what didn't. I have merely described the other side of the coin here to somewhat counterbalance the legions of poets and thinkers who seek to lull us

into believing that our new, perfected predatory behavior is a prime example of morals, ethics and aesthetics. This can be summed up, more briefly and less emotionally, in one sentence: Among all animals, humans became the most efficient and perfect predators. Our intellect optimally supported our instinct-driven predatory behavior toward animals and plants.

This is perhaps the place to recall that we have directed this very behavior with equal vengeance and efficiency against our fellow humans – not to use them as food but to hold them as slaves, to take away the animals they breed and the fields they till, their homes, their weapons, all their possessions. In short, we loot everything that, from an evolutionary perspective, can be construed to represent additionally formed organs that are not firmly attached to our bodies and that empower us as much as they did their former owners. Here, the term “predator” coincides fully with the vernacular “thief and robber”, although we do apply different standards and moral interpretations when this behavior is directed against nature. Wars of conquest were waged, peoples subjugated – and little has changed to this very day. Our additional organs spur our progress and our cultural development, but also represent a powerful key stimulus that time and time again brings individuals and groups, despite legal constraints, to ruthlessly rob others.

6th Premise:

Energy gain in sedentary societies involves transactions

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This chapter focuses on human history about 10,000 years ago – a key period mentioned earlier in the book.

Farming and animal husbandry led to more sedentary lifestyles. Larger societies formed: associations with widely differing constituencies and internal orientations came to be led or “governed” in one way or another by some acknowledged authority. At the early stages of this development, everyone produced the additional organs they needed themselves. Gradually, various individuals specialized to assume these tasks, which was to everyone’s benefit. These items could be produced better, quicker, more rationally and therefore at lower energy costs. Moreover, those who needed such goods could acquire them in a transactional process. This clearly raised a problem: What could be given in exchange for the desired items?

With some luck, the producer of the goods required services that turned out to be acceptable to the producer. The product could then be exchanged in a barter transaction for that particular service. In other cases, the customer him- or herself produced goods that the partner required. Let’s assume, however, that someone needs a sword, and that that person makes shoes. The effort required to produce a sword and a shoe differs considerably. The sword maker was not interested in acquiring the equivalent in shoe pairs – he needed other things that the shoemaker wasn’t able to supply. In this case an exchange was clearly impractical. This example may sound naive, and in fact such transactions initially proceeded along quite different lines and were not conducted as freely as indicated because, over long

stretches of history, various power structures and privileges severely restricted or even hindered free enterprise. My aim here is merely to demonstrate the principle: the same underlying problem ultimately led to the same solution everywhere, namely the introduction of *money* as the necessary mediator to overcome a ubiquitous dilemma.

Such a universal mediator – whether it be made of paper or metal, whether it be a natural product (for example a cowry shell) or some other object – proved to be indispensable. The following causal chain of events, in a strongly simplified form, can be reconstructed as follows:

First: Expanding the capabilities of the human body required additional organs.

Second: The fabrication of such objects – whether they be a shoe, a house, a stone axe, a bridge or a fountain – requires expending energy and having the necessary abilities, which must be learned (i.e. new control mechanisms or “wiring” in the brain). Specialists can make better products, can better rationalize the process and speed up production. They can also spare every non-specialist the effort, time and energy that mistakes inevitably entail (notwithstanding that most individuals could never produce complexly manufactured goods). The need for such specialists is indisputable.

Third: The difficulty, then, is to actually acquire the desired object, to be able to offer the producer the equivalent value for his or her service. The prerequisite for established such specializations and therefore for boosting human capability with additional organs is the discovery or creation of this mediator, regardless of the pathway taken.

This mediator must fulfill two preconditions: it must enjoy universal recognition within the respective society and it must be divisible. The latter is crucial so that the value of every service can be subdivided into small portions, allowing the owner to spend one portion for food and others for additional necessities.

Fourth: Neither money nor its inherent features are haphazard inventions, but functional necessities for human progress. Human ingenuity allowed us to overcome this barrier, even if the ultimate solution allowed little leeway. The process is analogous to the mental achievement of a dog that fetches the meat on the other side of the fence either by finding a hole in that fence or finding the end of the fence. This task also has few degrees of freedom – success requires this one specific detour. Additional organs were a prerequisite for human progress, and their production was therefore crucial. This also required a detour to proceed rationally and smoothly. The producer receives money for his goods and utilizes certain portions to then purchase what others have to offer: food, additional organs, or specialized services.

It was smooth running once this functional hurdle had been taken. “Supply and demand” determines the value of each service or product, i.e. how many portions of money the producer or supplier will receive. The fact that the intrinsic value of money doesn’t change is a problem that society must somehow come to grips with. How the customer and producer find one another is an additional problem that is solved in public forums (such as open markets) and by a class of professionals (tradespersons) who mediate between supply and demand. Money is a jack-of-all-trades that can convert any one service into any other, that can equate

any one product of human specialization into any other product. Of course, this only applies when the customer actually has the equivalent value in his or her pocket.

Another advantage of money is that it can be “saved”, accumulated, and that the owner can steadily increase his or her purchasing power. Saving long enough can therefore enable particular expensive purchases or major investments.

The invention of money decisively improved energy gain in another way. Farming and animal husbandry enabled us to spare ourselves long migrations across wide expanses: we could achieve practically the same goals in a much smaller area. This intellectual detour involved planting seeds into the soil rather than eating them, and feeding and caring for captured animals so that they produced as many young as possible. With the advent of money, people no longer actually had to produce food in order to feed themselves. You could make a pair of shoes and, presto, they were transformed into cabbage heads and grilled sausages. Someone working as a gardener was able to put soup, a steak and dessert on the table. Help a man in Australia purchase a machine made in Sweden, and you can pay for your family’s vacation or your favorite aunt’s operation. If you are an avid stamp collector, you can also use that money to purchase an old, misprinted stamp. For every service that someone, somewhere needed (and that you delivered), you can buy, rent or hire yet another service. This is a neat one-sentence summary of what “economy” means.

Does “money” as a transactional tool represent a new energy form? In the physical sense the answer is no.

First: It can only be converted into other energy forms in those settings where that currency is recognized.

Second: The purchasing power, i.e. the convertibility into other products, can fluctuate widely depending on the economic or political situation.

Third: Money’s inherent power can sink to zero in uninhabited regions, for example in the Sahara Desert. If I use money to purchase food at some location (as an energy source for me, my family, or our pets), then the chemical energy contained in the food has a known monetary value at that precise moment in time. If I invest in a windmill that converts kinetic energy into electricity, then the result – the profit – can be compared with the technical efficiency of any other energy conversion (after factoring in the amortization of the facility).

Note, however, that when the last person on earth dies, the energy equivalent of money will drop to zero.

The customer, the client, has become a new source of energy. If that person has amassed a surplus and if I can induce him or her to part with some of that money for a service or a product (which is also a service) that I can offer, then I can transfer some of that person’s potential into my pocket. I can subsequently convert this into any number of energy forms to serve my needs. Wilhelm Ostwald, who was the first to fully recognize the importance of energy in our daily lives and in economics, termed every tool and every organ an “energy transformer.”²² This is valid for every aspect of evolution and human progress. After all, energy requires specific material structures to differentiate or manifest itself as work or services. In

this sense, every working person, every business, every corporation is an “energy transformer”. These entities use their particular material inventory (guided by control mechanisms) to force energy to perform specialized tasks. Although this energy is initially in a crude form capable of only very primitive reactions, the refined tasks performed and goods produced once the energy is “sublimated” have a defined value in our supply-and-demand world. Money can then transfer this value into other investments, other energy transformations, or the fruits of other labor. Within a defined area, money is therefore an energy transformer. Its energy value by no means remains constant, but depends on environmental factors, on the respective desires and abilities of the people, on the purposes for which it is used, and on the results achieved. If I throw a banknote out the window, then it can be converted into other forms of energy by the lucky finder. An unclaimed banknote is functionless. Money, as opposed to energy, can be destroyed.

The last 3000 million years have yielded no new significant form of energy gain beyond those practiced by plants and animals. The former capture unbridled energy flying by at the speed of light and subjugate it for their purposes. Animals then steal this energy from plants or from their animal counterparts. All of a sudden, a new, *indirect* form of energy gain appeared on the scene. It is also extracted from other organisms, but not in a violent, predatory act. It is gained via barter, and the transaction is again successful only when the balance is positive. Note that we are referring here to the energy balance – the financial and energy balances are not identical.

What efficient, practical strategy can help us indirectly gaining energy by selling products, providing services, or mediating between supply-and-demand? Let’s view this from the perspective of an animal – a universalist that switches to this new principle – and let’s assume that the animal thinks much like we do. What spontaneous comments might it express about the new alternative? The answer might well be:

First: “Although more thought must be given to this new form of acquiring energy, one thing is clear from the onset: the underlying principle here is also to exploit the weakness of others. Everything revolves around need, and this already represents the first weak spot that I can exploit. As an experienced predator I am always on the lookout for prey vulnerability. If I want to sell something then I will focus on weak spots here as well – this has been my strategy in the past and is nothing new to me.”

Second: “Just as in true predation, I can learn some useful things here by keeping an eye on the competition. In particular, where have they discovered prey and where can I join in on the action? If I’m clever, I can study their behavior and save myself a lot of unnecessary work. Moreover, selling goods and services takes place in a much more gentrified environment and, with few exceptions, I need not fear any serious injuries. By being faster, more clever, and making an even better impression on the customer, I can probably shake off a competitor here and there. Whether the act be predation or salesmanship, the key is to find prey. In the former, energy lies in the prey organism’s tissue and must be extracted with considerable effort. In the latter, the customer’s wallet contains all the energy. The decisive advantage is that this cash is immediately and fully activable. There is no need to arduously extract energy from protein molecules. And money’s versatility is unparalleled. Once it lands in my pocket I can improve and empower myself in innumerable ways. Still, I do actually have to get my

hands on the money first and, like in biological predation, my competitors can both hinder and guide me. This allows me to employ my traditional tactics.”

Third: “Whether profiting from a predatory act or from solving the problems of others, I see nearly complete agreement in one important parameter – rationalization. I’ve already mentioned that speed is essential. Equally important in this friendly form of acquisition is to carry out the individual actions precisely, enhancing the prospects of success and helping to ensure that income considerably exceeds output. The goal is a big fat profit. This line of business probably fluctuates like any other – times when things run smoothly alternate with hard times. This calls for avoiding a carefree life and making provisions for rainy days, i.e. stockpiling reserves. Of course, these very reserves will attract my competitors. It remains to be seen whether this money can be better hidden or otherwise stored than in the fat reserves that once hampered my agility. At any rate, this business is one in which I can build on my past experiences. For example, I can successfully employ deception to sell my products or services, much like in the predatory situation. In predation, I had to prevent the prey from fleeing. As far as I can tell at this stage, salesmanship also relies on reeling in the customer that has taken the bait. Although the methods may differ, the goals are largely the same. Taking the potential customer by surprise, taking advantage of his or her mood, even applying a bit of pressure to prompt a favorable decision will allow me to come out on top. Such transactions even harbor the possibility of unexpected bonanzas, whereas the mouse I once hunted could never yield more than the energy it contained.”

Fourth: “A pleasant side effect is the reduced threat of landing in someone else’s stomach while concentrating on the hunt. This line of business is truly much more civilized and attractive. If I play by the rules, then society, the legal system, and the state will protect me. Or have I missed something here? Money can fulfill any wish – doesn’t each “killing” I make put me in danger? Not the transaction itself, mind you, but the result? I find it hard to believe that violent predatory acts, as deeply engrained, traditional behavior patterns, have been entirely eradicated in modern human societies. While it’s certainly not worth the risk and effort to make a meal out of a human, the victim’s tools and furnishings – all his or her belongings, especially the easily convertible cash – make me think that earning money does involve a degree of risk. Considering the many methods that we predators have developed, I can well imagine that people who have amassed greater fortunes can expect to encounter major trouble. Wouldn’t such people be particularly susceptible to seemingly friendly business transactions, making them targets of momentarily irresistible sales pitches that turn into smoke the very next day? The psychological tricks I learned as a predator could come in quite handy here as well.”

At first glance, predation and business transactions appear to have certain things in common. One key difference, however, remains. To reiterate it once again, energy gain is and will always *necessarily* be the central problem in life and in overall human progress – a prerequisite for even minimal advances and developments. The crucial difference between energy gain via predation and the novel two-fold barter or business transaction (in which money is first earned for some service provided and then used – in a second, independent act – to buy food or other goods) is the diametric reversal of energy gain in plants and animals. Namely, the effort is now no longer devoted to acquiring immediate necessities (e.g., food in animals). The originally decisive act becomes secondary, almost an

afterthought. The sights must be set on an entirely different object and novel problems solved: human beings who have money and certain needs become the new target. The behavior expressed toward that person will decide between success and failure, potentially even deciding between life and death. When times get tough, humans can theoretically always revert to their original strategy and forage for food themselves. Practically, however, the changes brought about by newly empowered modern human beings are so deep and overwhelming that original alternate strategies – which were by no means simple even then – have been entirely blocked for most of us. Although it is rare for anyone to starve to death in the affluent societies of today's highly developed countries, a high-tech, modern war, with its highly destructive weapons, could lead millions to starvation. Our empowerment through the transactional processes outlined above is the foundation for all current human progress. Energy gains involving food have been relegated to secondary status. On the one hand this has enabled us to visit neighboring, uninhabited planets, on the other hand it could one day be responsible for extinguishing the evolution of life as we know it.

7th Premise:

Energy gain via transactions calls for new strategies

This premise can perhaps be best introduced by presenting two examples to demonstrate transactional processes between predators, how these take place, and where they lead to.

The first case involves partners of approximately equal capabilities. One person wishes to purchase something – an object or some kind of service – from the other. Rarely does the process involve an exchange as simple as: “This costs such and such an amount”, and the other side replies, “OK.” As a rule, the price is often discussed in a process commonly known as bargaining or haggling. This requires pulling every “predatory” string in the partners’ behavioral repertoire – without one side or the other harboring any hard feelings. Quite the opposite. In the Orient, for example, business partners typically show no inclination to shorten or even avoid the negotiations. The struggle has become socially acceptable, a recognized form of art in which intellectual weapons come to play. Even though both partners know that the deal will be closed, neither shows any interest in bringing the game to an early end, much like a good game of chess. Once the terms of sale have been agreed upon, both are satisfied – neither can be said to have beat a hasty retreat. In fact, such negotiations, even if they were extremely tough, often spawn friendships and mutual respect. Sometimes lasting partnerships arise in this manner because each party has experienced the abilities of the other first hand. Such partnerships can then set their sights on third parties.

The second case, when viewed from the historical perspective, is more important because it demonstrates how exchanges of goods or services can, and often did, give rise to a full range of communal structures. The basic “predatory” energy gain employed by animals and humans is once again the cornerstone. Some people are more industrious than others. In early human assemblages, the less diligent tended to subordinate themselves to the leadership of the

industrious. Both partners benefited: the latter needed helpers to fully develop their capabilities, and the helpers were happy to play their role for a fair share of the rewards. This share could be modest because the “rank and file” reaped a crucial benefit on a second level – a greater level of security. Over long stretches of history, security was a key consideration, whether it involved protection from predatory animals or from much more dangerous human opponents. Joining ranks with competent leaders improved your chances of making booty and, equally important, increased your personal protection and that for your family, your children, and your possessions.

Naturally, the leaders of such predatory bands received the lion’s share of the booty. On the other hand, they were also responsible for equipping and motivating their compatriots, whose needs had to be satisfied if they were to be relied upon. Such leaders, initially of a clan, later of hordes or of entire peoples – a duke, a king or perhaps some other potentate – enjoyed great privileges. The thirst for luxury or power knew no bounds. If such a leader took a fancy to a pretty woman, there was little to stop him from fulfilling his desires. The best food and drinks were just good enough. Once the community became sedentary, no palace could be big enough.

Such leaders naturally also had the final say in all matters related to the land within their sphere of influence. Since property was the foundation for producing food, for securing a livelihood, the ruler had everything firmly under control. The power base could be cemented by making key cronies dignitaries and property owners, eventually giving rise to full-blown feudal systems. The result was an ever-widening gap between rich and poor and an ever more autocratic rule of law, ultimately triggering radical changes, revolutions, and governments of every imaginable color. A third power base – after the ability to provide security and to rule over land and property – arose with the dawn of the industrial era: the possession of capital, of money to build production facilities. This further promoted the gap between rich and poor, increased the arbitrariness of the new ruling class... and led to new revolutions spearheaded by the teachings of Marx. The results spanned from communism to the various forms of socialism that exist today. The historical sequence of factors determining social cohesion and community structure was therefore: predatory activity, satisfying security needs, the power to rule over land and property, and, finally, commanding capital or money.

The two examples at the onset of this chapter – the first involving evenly matched partners, the second involving unevenly matched leaders and subordinates – show that transactions based on predatory principles can in fact lead to successful and even large-scale exchanges of goods and services as well as to various forms of government. This information can now be combined with the recognition that the rational production of additional, “artificial” organs prompted the invention of money, of various professions, of businesses and state-operated security systems. New services were then added, further concentrating communal structures. In every case, the predatory “bag of tricks” determined the strategy. And the balance of power determined what one partner transferred to the other in terms of booty and security, rights and privileges, goods or money. The balance reflected mutual interdependencies, limits to the exploitation of others, and the occasional explosions that dethrone or redistribute when oppression becomes excessive. And this brings us right up to speed for the 7th premise, which treats the practical aspects of gaining energy via transactions.

The key consideration in using transactions to acquire the output of others, in particular money, is the degree to which the customer is satisfied with the purchase. Simply put, if you buy shoes that are very comfortable or if you finally find a doctor that successfully diagnosed and treated your illness, then you have every cause to return to that shoemaker or to that doctor when your old shoes are worn out or you again fall ill. What you want is good value for your money, and if you receive it – or if your expectations are exceeded – then you become a regular customer. Chances are you will urge your close friends to do the same. Rather than being a one-off transaction, this form of business continues to improve as customer satisfaction increases. We have a fundamental reversal of predatory gain. Whereas the latter relies on maximum profit from a single act, the former relies on customer satisfaction. No predator can be successful by pursuing the grotesque notion of making its prey happy: ruthlessness is the correct tactic. In this new line of trade, consideration becomes the primary tool. Rather than momentary profit, success is reflected in the invisible bonds between your clientele and the goods or services you sell. Accordingly, clients who are in dire straits or whose needs are urgent should never be exploited by floating prices. While this may yield a good profit, customers tend to go to the competition the next time around. Charging a fair price to someone in a tight spot will be remembered and rewarded. Cleverness, not kindness, forges the invisible bonds.

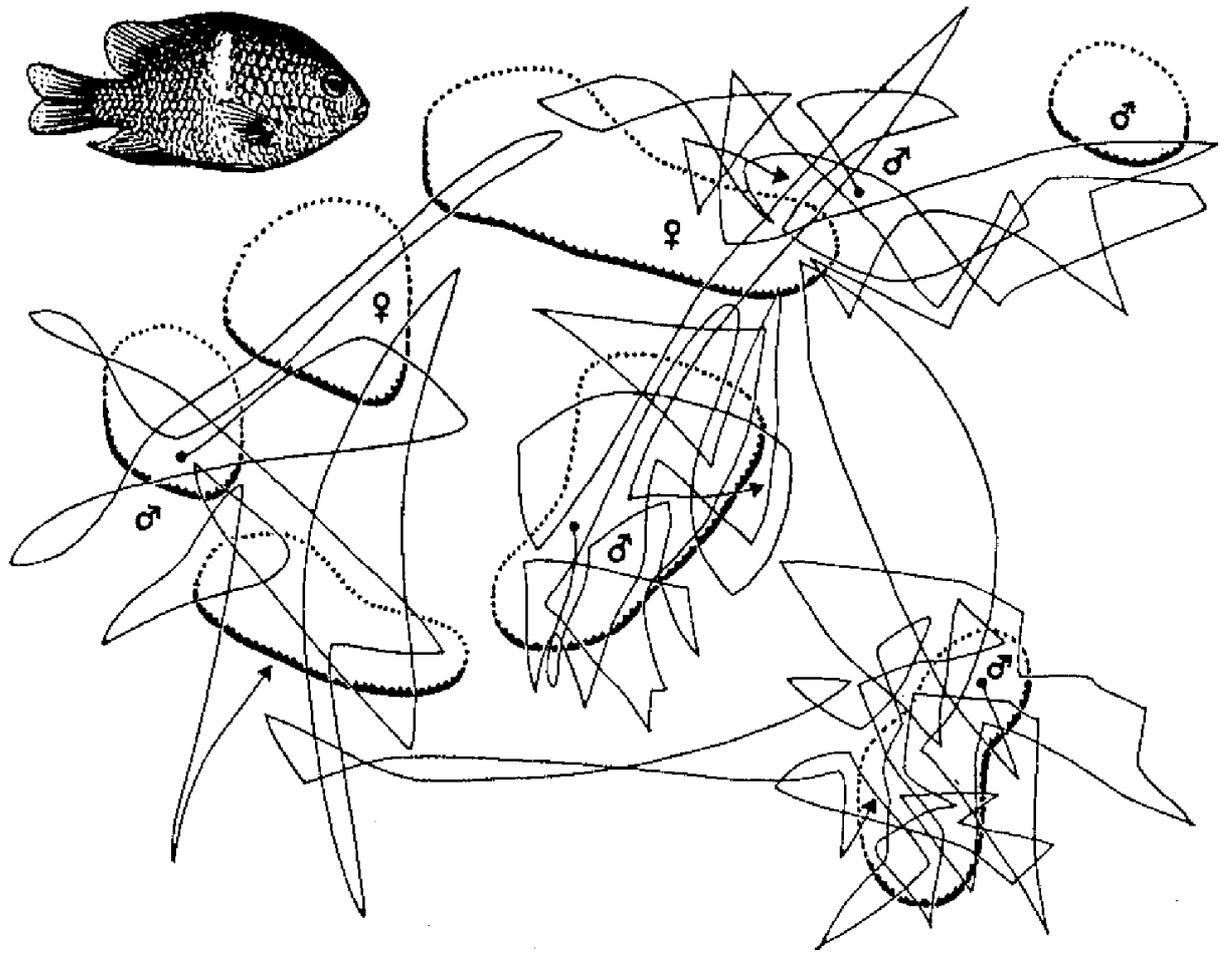
This difference crops up in later chapters and upends many long-held dogmas. The above example shows that professionally establishing long-term success has nothing to do with handing gifts to strangers. The catchword is confidence-building. In the predator-prey relationship, this trait is at best a ploy or ruse. In business, “good and evil” are irrelevant criteria. Neither animal predators nor business partners are good or evil in any ethical sense. Viewed soberly, “good” can only mean having mastered your line of business. If you do it incorrectly you are simply doing a bad job. The criterion “evil” can only be applied when the activity runs counter to the morals and laws of the community. This is almost always the case in theft, but sometimes in business transactions as well.

An additional difference between perfect predatory and business strategies lies in the effort at rationalizing, albeit within narrow limits. In both it is equally opportune and profitable to reach the goal cheaply (less energy), more precisely (higher probability), and as rapidly as possible. This requires optimal techniques, whereby the more experienced and better equipped are at an advantage. Minimizing mistakes – and missed opportunities – is a second cornerstone in both lines of trade. Speed is equally essential, in predation because otherwise the prey will escape, in business because customer demand can more quickly be met, creating satisfaction. In both cases, delays open the door for the competition.

These three points of agreement are contrasted by one fundamental difference: the treatment of employees. Rationalizing operations according to the predatory mentality means extracting maximum performance from subordinates with the least personal effort. Perfect behavior in business transactions, however, calls for treating subordinates (whose services have been purchased with money) in a manner that motivates them to peak performance in an atmosphere of mutual respect and trust. This will be an issue in the second part of the book when we discuss the gulf between employers and employees. The situation is more like to a symbiosis, where capabilities are exchanged, and the psychosplit hampers or hinders this process for a variety of reasons.

Another innate tendency in all animals, all predators, is to keep an eye out for the competition. This deep-seated mistrust helps ensure that they don't end up in someone else's stomach. How does this translate into the world of business? Are the underlying behavior control mechanisms helpful here or merely another disruptive factor?

Minding the competition is an essential part of doing business. The immediate competition relies on the same source of income and is therefore a dangerous rival. Keeping that competition at bay, defending your market niche, and countering intruders is as important as when animals defend the territories that nourish them (Fig. 6). Your competition has probably gained a wealth of experience that you can profit from. At the very least, you can avoid making the same or similar mistakes and revise your own strategies by observing their missteps. As in the animal kingdom, your competition can provide important clues about the demand for particular products and services. You can also orient yourself if you want to break into a market. On the other hand, shadowing your competitors has decisive disadvantages. First, any success story will quickly attract others, ultimately leading to an oversupply and heightened competition in that sector. Humans have the enormous advantage of not being bound to a particular line of work. As opposed to animals, we can acquire new capabilities and specialize in one area or the other by improving our bodies with the relevant additional organs. We can thus become highly paid and much-sought-after problem-solvers in many sectors. Note that the very problems that only few (or none) have tackled often turn out to be the "hottest items" – those with the greatest market potential. Slavishly emulating my competition can straightjacket my intellect and fantasy into pursuing highly unprofitable avenues, focusing on the forest rather than the gaps between the trees – the gaps representing potentially profitable needs that others have failed to recognize.



*Fig. 6: Economic behavior in a coral reef. The illustration shows the territories of four male demoiselles *Abudefduf leucozona* (left top). Eibl-Eibesfeldt, using the scientific diving method in the reef, recorded the swimming patterns of these territorial fishes on a writing pad. Each fish had, and defended, its territory, which provided it with the necessary food. Whenever a rival approached the invisible borders, it was attacked. The same holds true in the business world: those who have cornered some aspect of the market make every effort to defend it. Those who “hold the territory” are willing to put up a fight against the competitors. The most important weapon here, however, is customer satisfaction. Thus, sales representatives wander back and forth, visit and query customers, make new contacts, attempt to wrest market segments from the competition. In both cases, survival means controlling the territory that feeds you, which can be quite large in humans. From I. Eibl-Eibesfeldt 1987.*

Today, the innate fear of enemies and mistrust of the unknown have lost some of their original urgency, but remain sand in the cogwheels of the business world. Particularly in today’s anonymous cities, we often don’t even know who lives in the apartment next door and are confronted with newspapers full of stories about crime and unpredictable human behavior²³. This general undertone of mistrust hampers human contacts, stops many projects in their tracks, and nips good ideas in the bud. We will deal with this phenomenon later.

Result:

The innate instinctive tendencies we inherited from our long list of predatory ancestors are by

no means helpful and do not provide a useful platform for our entirely new form of energy gain via two-tiered business transactions, i.e. earning money to then pay for food and other services. But aren't we particularly good learners? Shouldn't it be a simple matter to salvage the useful and jettison the ballast on our new path? The answer is provided in the final two premises, which wind up the case I wish to present.

8th Premise:

Conditioning makes the customer the key stimulus for predatory behavior

The role of key stimuli has already been discussed in an earlier chapter. Whereas drives determine the general direction of animal behavior (foraging, repelling enemies, mating, etc.), certain key stimuli allow animals to recognize when and where to exhibit various innate actions and reactions. For example, what is a food item and what not, what features distinguish natural predators and other threats, where are the reproductive partners? The brain's task in each case is to filter these stimuli out from the flood of sensory input it receives and to then trigger the correct sequence of actions for that particular drive. Decoy experiments have shown key stimuli to be composed of the simplest and most unambiguous features. Much like an artist who caricaturizes the essence of a person or event with a few brushstrokes, the animal (or its central nervous system) can recognize the important environmental determinants for its behavior based on conspicuous, clear-cut characters.

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The effect of key stimuli is very mechanistic, but depends on the animal's current "predisposition". If it is very hungry, then it reacts less strongly than usual to other key stimuli that signalize danger or a distressed member of the pack, for example. It would be hard to argue that the situation is any different in humans.

As noted earlier, animals capable of learning can "improve" on the key stimuli that set their drive-related behavior in motion. The responsible mechanism in the brain – known in ethology as the IRM – can be so strongly altered by positive or negative experiences that the brain considers new factors before triggering the reaction²⁴. Humans exhibit a very highly differentiated system of key stimuli that are broadly innate and then variously altered through upbringing, experience, morals and moods. A series of highly refined, expanded key stimuli are at work inducing us to order a particular meal – whether it be a grilled trout, a roast chicken or a cream pie – at that particular time or place. Together with other factors such as price and dining partners, they help determine our objectives, our will. The same holds true when a girl falls in love with a particular boy, or vice versa: regardless of how complex the stimulus combination may be that awakens our drives and seeks to dominate us, our brains, not our hearts, house the complex network of ganglia that exert ultimate control. This network nonchalantly overrides our "free will" and goads us into making decisions that we later often look back on with incredulity. If a large object rapidly approaches us and we step aside in fright, then this does not involve reflection. Rather, instinctive commands from our

evolutionary past prompt us to take the evasive action. A whole range of drives continues to exert its influence on us, just as it does on our relatives among the higher animals: the drive for food, the drive to protect ourselves or to find a sexual partner. Certain key stimuli, which can be highly modified, continue to trigger our decisions. Many of our actions are still driven by deeper decision-making levels that are inaccessible to conscious reason and that are often at odds with our insight and intelligence (Fig. 7).

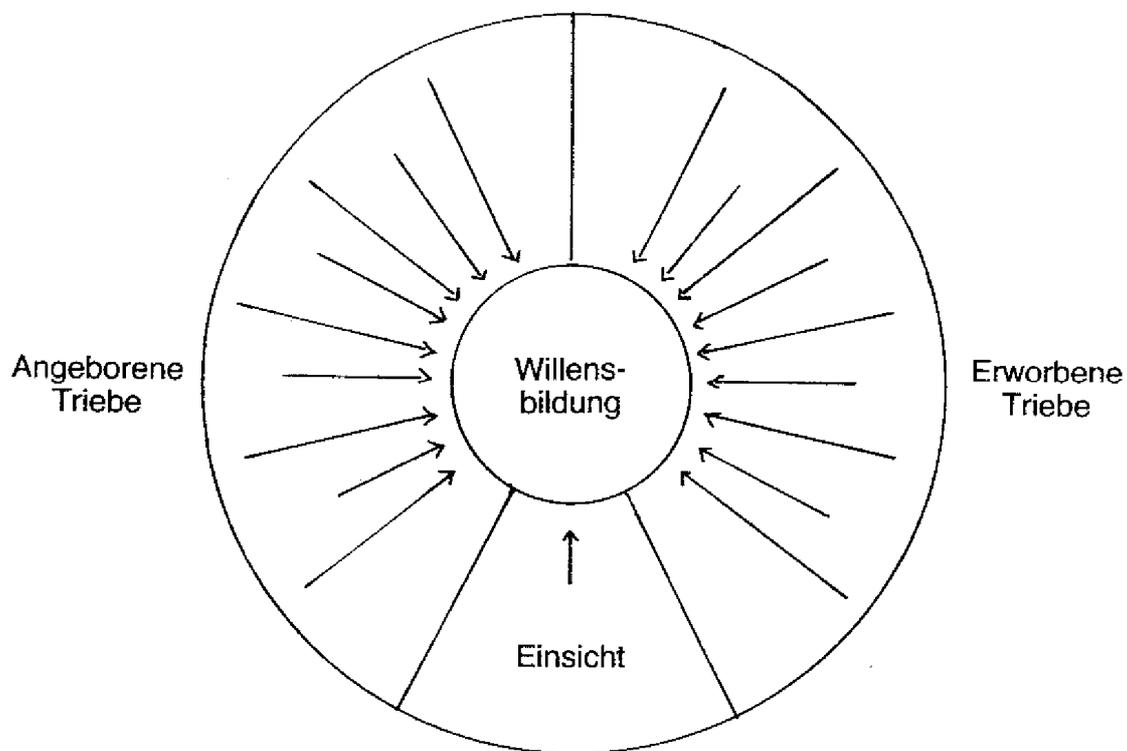


Fig. 7: Components that determine human will. The innate drives all have different meanings and complexities. The comparison between the drive for food and for sleep is a perfect example. Additional key drives include those governing sex, security, brooding, curiosity, and communality. Acquired drives ("urges", "motivations") are a product of upbringing, habits, religion, and ideology. Moreover, every stronger desire, like the innate drives, is characterized by special "appetitive behavior" and is terminated by a "consummatory" or "end" act. Our strongest acquired drive is that for money (see Fig. 9). In formulating our will, we must deal with these forces with reasonable planning and with "insight". Modified after H. Hass 1978. See also Remark 10.

(Willensbildung...forming will, Erworbene Triebe...acquired drives, Einsicht...insight, Angeborene Triebe...innate drives)

Within this highly complex mechanism, which is the domain of psychology, an additional phenomenon – conditioning – triggers actions. Conditioning does more than merely alter and improve key stimuli (characterizing relevant environmental conditions), but actually incorporates new, completely neutral stimuli. Stimuli that often preceded the satisfaction of a drive take on a "power" equal to that of the original key stimulus; they become "associated" with that stimulus and are then equally capable of setting the basic components of a particular drive or appetitive behavior into motion. The Russian physiologist I. Pavlov, who

received the Nobel Prize in 1904 for his investigations on digestive processes in animals, discovered this rather serendipitously as a side effect of his studies.

He studied salivation in dogs, a process which begins when they are hungry and detect food. In Pavlov's experiments the dogs were immobilized in a restraining frame so that their saliva production could be accurately measured when food was offered. For some reason, the experiment had always been initiated by ringing a bell, and the researchers soon recognized that the sound of the bell alone was sufficient to activate saliva flow, even when no piece of meat was dangled before the dogs' mouth. An entirely new stimulus, one which had nothing to do with feeding itself (the sound of the bell), had become the key stimulus and set off precisely the same reaction as the innate trigger²⁵.

Pavlov's subsequent experiments, like those of later researchers, showed that virtually any stimulus – if regularly preceding a behavior that successfully satisfied the drive – had the same effect as the innate key stimulus.

This process is highly functional. If an animal learns to recognize prey, a predator, or an approaching sexual partner based on supplementary sensory input registered prior to the actual key stimulus, then this new stimulus becomes so firmly engrained in the sensory apparatus that it also activates the drive behavior. The term "association" has been coined to describe how a new perception is coupled with the nervous system.

The story becomes a bit simpler when we realize that this phenomenon was well known far before Pavlov. It was self-evident long before it ignited scientific investigation. When a farmer's wife enters the yard with a feeding bowl and calls "cheep cheep" before strewing the feed, the chickens quickly grasp the connection: they react to the sight of the farmer's wife opening the gate with the bowl in her hands just as they would to seeing actual grains of food on the ground. The new, entirely neutral "cheep cheep" stimulus even prompts chickens that have already eaten their fill – and that are either following the events in the garden from afar or have gone to roost – to bolt toward the farmer's wife, ready to enter the competitive fray. The reaction is the same even if she absentmindedly forgets to put feed in the bowl. This fully parallels salivation in Pavlov's dogs, who responded to the bell without actually being offered food²⁶.

Astoundingly, an analogous "association" has had veritably tragic consequences for humans over the last 10,000 years. A conditioning process has hindered every affected person from applying his/her ability and resources as effectively and successfully as possible in business life. The connection between their unfortunate situation and that of Pavlov's dogs or the farmer's wife requires a more detailed explanation.

What happened once humans settled down and began to specialize in producing required goods or in providing required services?

Obtaining food (basic "energy gain") became a very indirect process. Instead of hunting game or planting vegetables, the shoemaker obtained his meat and veggies by producing shoes. This apparent banality is anything but. The shoemaker cobbles his shoes, sells them, earns a certain amount of money in a transaction, and uses this money – in a 2nd transaction – to buy

food. Two entirely independent processes become coupled: making shoes is totally unrelated to procuring food. Each task is fundamentally different and the respective tools have nothing in common. Nonetheless, this person obtains food by making shoes. Indirectly. This two-tiered exchange simplifies putting food on the table: the focus has switched to selling the shoes and making a financial profit. Making and saving money is the new maxim. This completely new form of energy gain can only function when two preconditions are fulfilled. The first is a demand for a particular service. The second is a customer willing to pay enough money to make it worth the effort and to guarantee that money is put into the bank.

This new phenomenon at the threshold from hunting-and-gathering to transactional strategies found mention in my Energon theory²⁷, but at the time the full implications had not yet been elaborated. Namely, every new energy gain was preceded by an encounter with a potential customer. This customer had become the main problem, making him/her the new key stimulus, no different than the bell for Pavlov's dogs, the "cheep cheep" call for the farmer's chickens, or simply entering the garden with a feed bowl. In this new line of business the appearance of a potential customer automatically triggered the innate controls for predatory behavior, which, as detailed in the last chapter, is by no means optimal for the new transactional strategy.

Rather than obtaining food, the new task was to fulfill the wishes and desires of others. "Conditioning" therefore turned the interested party (the customer or the employer) into the de facto prey. The objective was to snatch more money from that prey than the effort expended. Once this phase was completed, the second phase (exchanging money for food) was almost an afterthought. Because humans lacked innate strategies for earning money, the drive for food along with all its innate controls (which had been continuously refined over a billion years) automatically filled the breach. Much like human intelligence supported our ancestors' instinct-driven predatory activities, our predatory instincts colluded with our human intelligence to put food on the table using the new strategy. In this case, however, the collaboration was less harmonious. While our intellect adapted to the demands of our innate hunting instincts and continuously improved the process, the advice our hunting instincts offer in business transactions prove to be of limited value at best. More often than not, this advice is antiquated, useless, and obsolete. Even worse, it tends to be obstructive, damaging, and reduces both opportunities and efficiency.

Herein lies the tragedy that prompted me to write this book. When people apply predatory methods in the modern business world, they are neither "evil" nor "bad", merely bunglers. These people are insufficiently informed about our inner workings. While our intellect may tell us that something is terribly amiss here, our inner voice, with which we identify and which we perceive as an essential component of our "self", leads us astray. Our innate control mechanisms, obsolete for quite some time now, refuse to be gagged and continue unabatedly to offer entirely antiquated, damaging advice. The result: probably 80% of all working people are "handicapped from within" because they follow that advice. As Konrad Lorenz so aptly put it, our amazing technical advances have put us on the moon, but our "intraspecific behavior" has miserably failed to keep pace. Here, little has changed despite millennia of religious and ideological admonition, despite every conceivable ethical and moral effort, no matter how much this frustrates or baffles us. And underlying it all is the previously unrecognized, chronic conflict that automatically arose when the predator put on a business suit. Much like Pavlov's

dogs became accustomed to the fact that the sounding bell meant food – and began to salivate when the bell rang – we grew accustomed to the fact that customers mean food, triggering our predatory instincts.

First counterargument: If the sight of a customer really triggered innate predatory instincts, then the “seller” would do doubt still view that person as food and would attack. – *Answer:* Pavlov’s dogs didn’t bite the bell either. Neither did the chickens attempt to eat the farmer’s wife. In fact, it usually takes a succession of key stimuli to show the animal the way. For example, sharks are attracted over great distances by the thrashing of distressed fishes (e.g. those being attacked by others or hooked by a fisherman). Rather than simply reacting to every pressure wave spreading out in the water, the sharks react only to those emitted by distressed fishes (easy prey). If the shark rapidly approaches the site and the fish is injured, then the smell of blood is an additional key stimulus that directs it onward (especially at night or in murky water). Once the prey is in sight the shark begins the predatory act itself, sizing up every case individually. If the prey is firmly clamped in its jaws and the shark’s sense of taste indicates poisonous or unpalatable food (such experiments have been conducted and captured on film), then the shark will quickly spit it out again. Thus, sharks by no means bite into the water whenever they register thrashing motions or smell blood. Rather, each of the attracting stimuli takes the predatory behavior one step further, promotes the appetitive behavior of predation, and activates the innate ground rules for useful actions or reactions. Depending on the type of prey, these can differ considerably, particularly in specialists, although the basic guidelines remain the same:

- a) Show no mercy to your prey and fully utilize each opportunity.
- b) Maximize your profit by acting as quickly and precisely as possible while minimizing your own energy expenditure.
- c) Keep an eye out for the competition – steal their prey and make sure they don’t steal yours.
- d) Watch out for other predators and make sure you don’t end up becoming a meal yourself.

Second counterargument: Accepting that the above is true, before shoemakers can display their shoes, they must actually produce them first. They must purchase the leather, know how to use the appropriate tools, and complete countless tasks before opening their doors to the customers. All this differs so greatly from predatory feeding that it is hard to envision how such a learned trade could in any way be influenced by innate animal instincts. Business is guided by totally different rules – one simply has nothing to do with the other. –

Answer: This can be refuted by a visit to the circus. The elephants enter the arena in tight formation, each grasping the tail of the preceding animal with its trunk. At the keeper’s signal (or when the background music changes) they stop, let one another go, step onto pedestals arranged in a circle, and rear up on their hind legs after a further signal ... or turn about on their own axis ... or perform other complicated tricks. All this was achieved through conditioning. The human trainer painstakingly created associations or, in the psychologist’s terms, “conditioned actions”. Every elephant learned that entering the arena after a certain signal meant food. In a next step it learned that in order to receive food it had to enter the arena with a second elephant and hold that elephant’s tail. Failure to do so meant rebuke and certainly no food. The entire complex series of events is thus built up piece by piece. The food reward as the final key stimulus is the ultimate motivation, and an increasing number of actions – signaled by an expanding number of commands (key stimuli) – are “associated” with

this feeding activity. Although this “job” comprises a large number of individual actions (operant learning), even the animal brain can be taught to grasp it. When earning money is involved, we can master this much better. Every form of job training teaches us – through instruction, demonstration, and carrot-and-stick techniques – how to earn money by fulfilling some need. During this learning period we are typically fed by our parents or by others. After we have completed our education and mastered some task, we can be released to “earn our own way”. Once the earnings are sufficient to cover the bare necessities (which include paying for clothes and shelter), we can afford “luxuries” or concentrate on starting a family, pursue our dreams and desires, and “lead the good life”. With experience, our abilities grow and we learn to react better to environmental stimuli, i.e. to an ever larger number of key stimuli that guide our activities. Although this is only very indirectly related to acquiring food, that particular drive continues to be the primary motivation. Our customer becomes the focus, much like the trainer is for the circus elephants. The customers ultimately decide how much we can earn and automatically trigger our innate settings for predatory behavior, despite all our learning experience.

Third counterargument: All the above may be valid for the transaction itself. I produce an axe and get food in exchange. I work for the community as a guard and the community feeds me in return. But the business world operates differently. The self-employed, employees, and businesspeople receive money, not food for their services. And they can’t eat money. Putting food on the table is therefore not directly related to work.– *Answer:* Psychologists and ethologists have conducted countless studies and experiments on humans and animals to better understand learning mechanisms in the brain. These included investigations in which monkeys were required to operate mechanical devices or do other activities to acquire money. They quickly understand that this money can be used to obtain food, for example by throwing it into a vending machine. This research showed that the apes were able to distinguish variously sized or colored coins, recognize their respective values, to hoard, steal, and to fight over money²⁸. The brain of a monkey is therefore principally capable of understanding the underlying interrelationships, even if only under human guidance. At the next level, our self-awareness enabled us to comprehend cause and effect and to create the necessary organizational framework for the new requirements of the business world: first earning money for goods or services, and then spending the money to obtain food. It is very exciting to observe the precise moment in which children begin to grasp these interrelationships and their significance. No matter what our occupation or profession, our customers continue to induce the same drive and the same fundamental mechanisms that prey triggers in predators. Although nothing forces us to submit to these maxims, their influence is omnipresent.

We will deal with other potential counterarguments later, but let it suffice to say that the information provided above on the conditioning process and its consequences is basic knowledge to psychologists and is in full agreement with modern schools of thought. The new aspect here is that such well-known “conditioned reflexes” and “conditioning actions” have taken on such a fateful significance in human evolution. The new insight is that these processes have hamstrung modern humans into being considerably less efficient than they could be. Not because of some diabolic metaphysical power, but because an antiquated instinct is hard at work proffering well-meant but incorrect advice and directing our thoughts (at critical moments) into incorrect, dramatically disadvantageous, and unprofitable directions.

One additional counterargument is worth deflating at this point. It states that, if all this were true and obsolete instinct control mechanisms so seriously hamper us, then why have they not been reduced over the course of evolution? After all, many other no longer required organs in plants and animals have degenerated.

This is no doubt true. Evolution is replete with examples in which once important organs or behavior patterns lost their significance, for example due to a shift in diet, climate changes, or dispersal into a new environment. Such reductions, however, usually took hundreds of thousands, if not millions, of years. Just like new structures or improvements evolve gradually because they require corresponding changes in the genetic makeup (via mutations), the elimination of superfluous, no longer functional elements requires lengthier timeframes. We know that the superfluous eyes in cave-dwelling fishes atrophied over millions of years. The fishes that conquered land 350 million years ago lost their gills so slowly that most modern terrestrial animals – lungfishes, amphibians, reptiles, birds and mammals (including humans) – continue to develop gill slits as embryos. These gill slits are the final remnants of the evolutionary calling card dealt by our marine ancestors. From this perspective, we cannot expect deeply rooted predatory mechanisms to even be dented within a mere 10,000 year timeframe. Especially when there were no pressing need for eliminating them. After all, our business transactions can be conducted with some success using predatory tactics, although this is certainly not the optimal solution.

The following chapters will show that we have reached a critical crossroads in our development. Over a period of two million years, our intellect and our instincts were wonderfully matched. Then, with the advent of transactional exchanges, our innate control mechanisms became our worst enemy. Business was pursued with poor, inappropriate strategies, turning us into “semi-predators”²⁹. We became only “half-evolved” for our new line of business, living with one foot in the past by using predatory methods in our daily transactions, to our own detriment and to that of the environment. This led to the conflict in our control mechanisms that I have termed the “psychosplit”, which describes the split into two fundamentally different behavioral strategies.

9th Premise:

Money, the universal mediator, heightens the chronic conflict in our control mechanisms

Conditioned learning, which proved to be advantageous everywhere else, turned out to be a severe handicap for humans, a millstone around our necks that prevented us from optimally conducting business. Our customers, clients or employers automatically triggered instinctive reactions that circumvented conscious thought. These internal mechanisms influenced our decisions and hampered the use and development of the human intellect. When we encounter a potential customer, our inner voice says, “Make sure this pays off well. My own advantage is paramount”, when successful business transactions actually depend largely on the interest and satisfaction of *others*. When negotiating a contract, our inner voice again

whispers, "Take optimal advantage of this opportunity. Make the best deal possible", whereby long-term mutual benefit would be the optimal solution. When looking for a new job, the same internal advisor admonishes us to select the position with the highest salary, while another job with somewhat less generous pay might offer considerably better advancement opportunities. Wherever we spot the chance to "make a killing", we are magically lured into entering the fray, potentially causing us to overlook more suitable opportunities where we could reap lucrative monopolies in the foreseeable future. This will be dealt with in detail in the second part of this book.

The fact that our customers became the new key stimulus for predatory behavior is merely the first half of the psychosploit. This chronic conflict has spread as rapidly as business itself and negatively affects virtually everyone on a daily basis. It is boosted by a second conditioning process, leading us to the final premise.

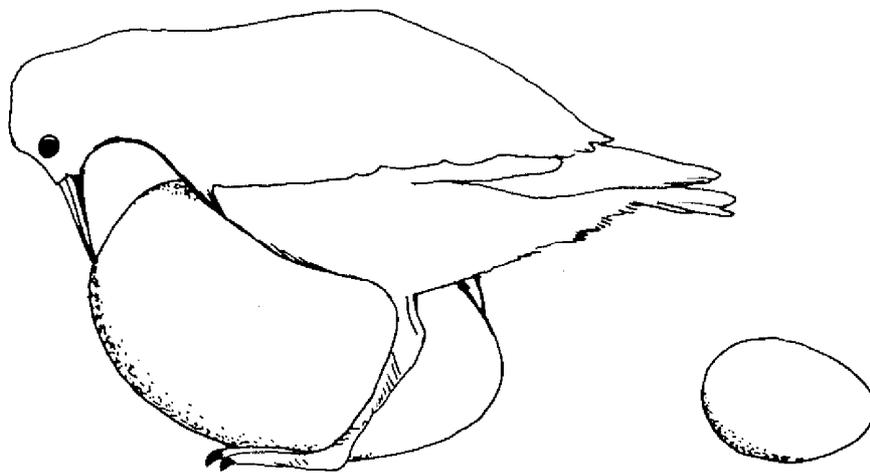
The decisive factor behind every successful transaction is not really the partner him- or herself, but the money that that person possesses and that might change hands. From the onset, however, this has generated a new association, a new internal linkage of nerve functions that made money the actual, omnipotent key stimulus. It activates our predatory instincts better than any customer on the other side of the counter.

There is no guilty party here, no "good" or "bad". Progress can be burdened with considerable baggage, and money proved to have particularly severe side effects. Without this universal mediator, human progress as a whole would have been impossible. It was the specialization into professions and corporate goals that enabled technical and economic development. And money enabled an unlimited exchange of services; the fruit of every labor could be divided or accumulated as needed. It also bestowed us with the additional organs that have so immensely enhanced our power and promoted human culture and the finer things in life, i.e. luxury, the arts, sports, amusement and other pleasures. Without money as a tool for all our transactions, we would have stagnated at the level of underdeveloped tribes that do not know this mediator. Such splinter groups have all the aptitudes of their counterparts in high-tech, industrialized civilizations. Without money, however, their development stagnated, as would our own production and businesses, which require large investments. The same holds true for most inventions, discoveries and innovations.

As usual, immense advantages are counterbalanced by equally momentous disadvantages. I am referring to the problem of matching the volume of money to the size of the respective working force and to maintaining stable purchase value. The so decisively negative impact was that money not only bought food (energy and cellular building blocks) but could also be used to purchase every product and every service on the market – as long as we earned and saved enough. Earning money not only puts food on the table but can fulfill virtually any innate drive or need dictated by culture, morals, and fashion. The full significance of this becomes evident when we take the biological (i.e. non-traditional) perspective. This jack-of-all-trades directly satisfies or heightens practically every drive and delivers every additional organ that our economy can produce (clothes, machines, buildings) and every imaginable service (medical attention, theater shows, air transport, etc.). Any culturally instilled wish can be fulfilled. This means that the universal mediator becomes the universal key stimulus, a unique step in evolutionary history.

Naturally, everyone knows that money can buy you most everything and fulfill almost any dream, and that earning money is therefore a highly desirable pursuit. What most people don't know is that this concentrates all our innate and acquired drives, via conditioning, on earning that money.

In some animal species, artificially created key stimuli are known to be more efficient than the natural ones. Thus, certain brooding birds react to a greatly oversized artificial egg placed in their nests by heroically trying to brood that egg and neglecting their own eggs (Fig. 8). This merely represents a misguided drive, much like the acquired drives in which advertising lures us into purchasing something other than we had planned. In this sense, money is a magic wand, a powerful "supernormal" stimulus, that hypnotically attracts us. And this attraction is disadvantageous in business transactions because it prevents us from concentrating on the interests of our customers or employers. Simply put: maximizing profits means focusing on the problems and interests of the customer rather than on our earnings. Unfortunately, money prevents us from going that road.



*Fig. 8: **The supernormal key stimulus.** As experiments have shown, the females of certain bird species prefer artificial giant eggs over their own even though such eggs are too large to sit on. This represents a negative side effect of innate behavior, just like the psychosplit and the semi-predator phenomenon in humans. Supernormal stimuli can also be effected by advertising, which typically serves the needs of the producers more than that of the customers. After H. Hass 1987, Vol. 4, after N. Tinbergen 1951.*

Note that innate or acquired needs are typically characterized by a consummatory or end act that switches off the motivation. If I simply must have a certain type of cake, then this impulse will decrease dramatically after having consumed a certain number of pieces, ultimately becoming "switched off". Being sexually aroused and then stilling that drive switches off that specific arousal, at least for some time. If someone wishes to see Mallorca and finally visits that destination, then that wish is satisfied and will only re-emerge at some later date, if at all. Such a "consummatory act", however, is missing as far as earning money is concerned. Why? Because fantasy fuels our desire for things we don't yet have. In short, our useful servant has become a tyrannical force. It prevents us from conducting equitable transactions and therefore

reduces our economic potential. The overpowering key stimulus steers our thoughts in the wrong direction, makes us “egoistic” and causes us to act counter to our best interests. It goads us into “make a killing” and we end up earning less than we might have. Rather than optimally applying our talents and resources, we can also end up senselessly hoarding our money and become miserly.

A more detailed analysis reveals a third, even more disturbing type of conditioning. Not only is money a key stimulus we seek to help still our wishes and desires and that automatically activates our predatory instincts. Worse yet, the drive to acquire money supercedes all remaining drives, becoming a central focus that inexorably activates a series of other instincts that hinder us (Fig. 9). This is the second half of the psychosplit that I am trying to outline here. Its development can be summarized as follows:

First stage: We all search for food, just like our animal relatives. Key stimuli that point to food induce the respective “predisposition” which, like in animals, triggers instinctive behavioral programs.

Second stage: We buy food from others in a direct exchange that involves offering something in return. If that person becomes a regular customer, then every further contact, if that customer is in a “shopping mood”, will trigger the same reaction as sighting prey would.

Third stage: The customer pays not in kind (with food) but with money, which can then be used to purchase food. A second conditioning takes place. Money becomes an additional key stimulus that triggers our innate predatory strategies.

Fourth stage: The many uses of money (for food, services, goods) propels its value to a new level. Earning money thus became a central, newly acquired drive that coalesced with and effectively superceded all others.

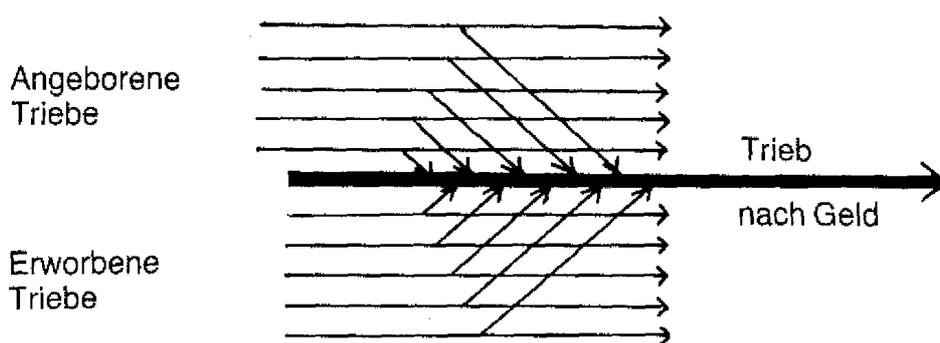


Fig. 9: The supernormal drive. Money promotes virtually all our innate drives. This explains why every drive tends to promote our focus – via conditioning and insight – on earning money. Most of the acquired drives and wishes we pick up through upbringing, habits, ideologies, etc. also motivate our drive for money. It became the strongest of all acquired drives and ranks ahead of the others. Because there is no associated “consummatory” or “end” act, it continuously activates the psychosplit (see text). (Angeborene Triebe...innate drive, Trieb nach Geld...drive for money, Erworbene Triebe...acquired drives)

At today's stage of development, another weighty factor appeared. Supply and demand have become an ever more dynamic market force. This necessitates closely following the needs of your target group, i.e. the customers who are interested in what you have to offer. Again, this means focusing on the interests and advantages of your partners rather than on your own. This is doomed if we follow our instincts and seek to maximize our own benefit; if we concentrate on extracting even greater profits for our goods or services even if these are out of date; if we apply predatory, hard-sell tactics to move shoddy products and services to the seller's advantage and the buyer's disadvantage rather than staying one step ahead and anticipating the customer's needs and desires, to the ultimate advantage of both buyer and seller.

It goes without saying that the psychosploit equally affects both individual workers and entire communities. In businesses this is clearly reflected in the overemphasis placed on balance sheets – a problem we will deal with later. In communities and states it is reflected throughout history in ruthless struggles for power and money. Wars of conquest, enslavement, and exploitation of other countries, along with class struggle, have always been the mainstay of political life. Today, this persists in the exhausting conflict between employers and employees and the enormous military expenditures of the world powers. In an effort to achieve positive trade balances, it has become quite commonplace for states to concentrate on their own gain and not on the benefit to others (which would ultimately be to their own advantage). The Marshall Plan, for example, and the development aid given by some countries (those that go beyond merely dispensing alms or egotistically creating markets for their wares) already demonstrate a true transactional character. The same holds true for those companies that focus on quality and customer-friendly services, i.e. on the interests and the shifting needs of their target groups.

In earlier chapters I omitted reference to certain sources of energy we typically associate with "harnessing" energy: the utilization of natural forces such as wind, the release of the energy contained in wood and coal through combustion, the energy in crude oil, water power and, finally, nuclear power. This aspect was swept under the rug in order to avoid unnecessarily complicating the presentation of the how we obtain food through transactions and how this process ultimately led to the psychosploit – an omission that I would now like to correct.

Even animals have learned to utilize natural forces. I have already mentioned one example, namely that of coral polyps, which leave it to the ocean currents and waves to convey microscopic life forms and organic remains directly to their mouths. Certain spiders utilize wind energy by climbing up plants or rocky cliffs, producing a thread that "catches" the wind and lifts them up into the air, transporting them over considerable distances. The fundamental difference to gaining energy by eating is that the natural forces spare the animal work it would otherwise have had to do. Whereas the energy taken up via food must first be released, appropriately converted, and then functionally utilized by organs, (e.g. the locomotory organs), the coral polyp need not imbibe water energy and the "ballooning" spider need not devour wind energy. Rather, these forces are directly tapped by certain structures (ballooning threads) to avoid unnecessary energy expenditure. In the Energon theory I termed this "direct utilization of outside energy."³⁰

We apply our intelligence to considerably increase such opportunities for utilizing energy sources that do not require eating and converting food energy. Taming fire was a crucial step in this direction and required as much intelligence as fashioning a stone axe as an additional organs to empower our hands. Masts and sails are an another example of harnessing outside energy: we force the wind to power the additional organs we call “sailboats” (an organ designed to cross waterbodies). The locomotory organ “automobile” is powered by an internal combustion engine with the energy contained in gasoline. We force gravitational energy to power hydroelectric power plants and use electrical energy to carry out an enormous range of functions. The important point in each case is that outside energy is used *directly and immediately* to power additional organs. If we move a boat with oars, then that energy stems from food that we “fueled up on” and converted into muscle power. The boat is improved with mast and sails because the wind then assumes this role and our food energy can be applied to correctly manipulating the sails and the rudder.

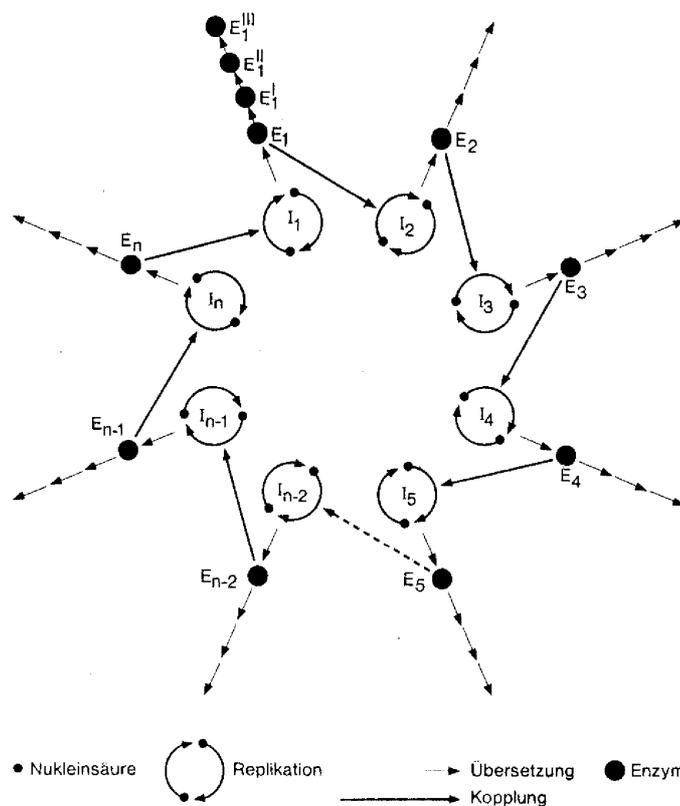


Fig. 10: **Theory on the origin of life.** Manfred Eigen developed this plausible model for the origin of life, a process that proceeds via reduplicating structures. In the energy-rich “primeval soup” of the ancient seas, energy-rich molecules could encounter each other randomly, leading to rings such as that illustrated here. Such rings can determine the development of the subsequent ring. If additional molecules that promoted this process inserted themselves in this cycle, then the improved and expanded “hypercycle” preferentially reproduced itself. After M. Eigen and P.Schuster 1977/78. (Nukleinsäure...nucleic acid, Replikation...replication, Übersetzung...translation, Kopplung...coupling, Enzym...enzyme)

Intellect and instinct work together quite well in the technological sector – up to this very day. In this case it is overtly beneficial for our instincts to help us maximize our own advantage. After all, this approach has enabled us to use outside energy to reach the greatest depths of the sea and to propel ourselves into space.

Unfortunately, these innate instinct controls fail in transactional processes involving human services. Worse still, they actually turn against us due to the psychosplit. Harnessing natural forces clearly does fall right in the predator's "line of business". In contrast, our predatory instincts are ill suited to motivate our fellow man to give us food, to produce additional organs, or to provide some service in a transactional setting. Money as an overpowering key stimulus reinforces this negative tendency. The more our affluent society develops and the more we categorically strive to maximize our pleasure, the more our thought processes lead us astray and the more our intellect hinders optimal success. If only we could deal with our fellow man as successfully as with other organisms and the forces of nature.

Conclusions:

Overcoming the psychosplit would boost our success and quality of life

The idea behind stressing the importance of energy for all living organisms in the 1st Premise was to take the spotlight off the material structures that propagate this immense process. Life is motion. Organisms use their organs to put this energy to a range of good uses. Capturing and harnessing energy typically involves numerous conversions, with energy being lost at every step. This explains why each organism must extract and exploit considerably more "raw energy" from its environment than the total "useful energy" its individual capabilities and functions require. On the bottom line the energy balance must be highly positive.

Sunlight is the energy source for plants, and plant shapes show clear adaptations to this. The same holds true for animals: their strategy is to consume organisms in whole or in part and to release the chemical energy – converted solar energy – contained in the food's molecular structure. This energy then fuels the animals' functions. One necessary adaptation for predation is to have nerve structures that control prey acquisition. They issue commands that enable the animal to recognize its prey – its energy source – based on key stimuli. They then trigger the correct sequence of body movements to overpower and devour the prey.

For over 3600 million years, life existed only in the sea and other waters. Some life forms then conquered dry land. Capabilities increased in leaps and bounds and, ultimately, only 2 million years ago, gave rise to an organism with a particularly highly developed nervous system – humans. Up until that time all plants and animals had to form the organs they needed from cells. We, on the other hand, were able to form additional organs directly from raw materials, considerably boosting capability on all fronts. Moreover, our brain capacity enabled us to pass the instructions on how to produce these additional organs on to our descendants. The organs were detachable, boosting our versatility to new heights.

Initially, our innate instincts and the acquired control mechanisms (which we could communicate to others) complemented each other quite well. All of our key drives – for food acquisition, protection from predators, reproduction and social cohesion – were better met using these additional organs and new control mechanisms. We became far superior to all other organisms and specialized in ever new fields of activity. This gave rise to a new – *third* – form of energy gain. Whereas plants capture the sun’s energy and animals use predatory means to “fuel up”, humans began to satisfy their energy needs using transactional strategies within sedentary communities. The difference between these transactions and predation was just as significant as animal versus plant life strategies. Our adaptation proved to be only partially successful. As so often in the course of evolution, new features that *significantly* boosted capability also created new problems. Today, a once reliable mechanism – conditioning – activates mechanisms that are appropriate for predatory behavior but not when dealing with our “transactional partner”. All of a sudden, human intelligence, which so efficiently promoted technological progress (i.e. the production of additional organs) and so decisively improved our predatory strategies, was confounded with a new challenge. Our outdated internal directives often directly contradicted or derailed useful and profitable business strategies: paralysis and confusion were the result. Our business transactions proceeded according to obsolete predatory strategies. Profits were earned and advances made, but far below optimum levels.

This conflicting internal control mechanism, the “psychosplit”, bogged down human development, impacting not only business but human co-existence as a whole. This put sand in the gears of “cultural evolution”, hampering our efforts to make life more pleasant and actively shape our lives. Why? Because we automatically degraded every “transactional” partner to “prey”. The social drives and mores that regulated human co-existence were insufficient to counteract the strongest of all animal drives, namely the feeding instinct. Money, the extraordinarily useful universal mediator behind all of our transactions, merely amplified the problem. Conditioning was once again at fault. This, in summary, is the brunt of my argumentation, which automatically raises the question: if this is all true, what can be done? Can we eliminate this inherent blockade and, if yes, how? Evolution essentially multiplies energy via suitable structures and expresses it in range of capabilities. Following the development of uni- and multicellular organisms, humans have ushered in a third, explosively expanding evolutionary era. The new mode of energy gain that fuels this era, however, has caused the evolutionary process to hit a wall. The internal “psychosplit” is a cancer that, combined with our current level of technical achievement, makes the impending self-destruction of the human race and of life of our planet a distinct possibility.

Can the psychosplit be influenced? Can this psychological defect be somehow reduced, neutralized or eradicated?

Analyzing the process in small cities and towns in the market-oriented “free” world reveals clear constraints on the “semi-predator”. In this sense, our transparent societies do exert a corrective function. The greengrocer who sells us second-class vegetables or overcharges for high-quality produce will soon be out of business. The customer influences this by switching to competitors who provide a better deal. If the grocer has a monopoly, others will invariably attempt to establish a new, better enterprise. The inept supplier disappears from the screen. This process fully conforms with the “survival of the fittest”, originally applied to those animal

and plant species that are either better at acquiring energy or otherwise better adapted to their environment.

Early human societies that became sedentary were still relatively small and transparent. This by no means neutralized the budding psychosplit. As indicated earlier, the priorities back then were security against outside groups, followed by land ownership. This hindered “free enterprise” in the modern sense. The ruler or the ruling class controlled supply and demand and reaped most of the profits made by and within the community. Even then, much like in smaller market economies today, the more unpleasant effects of the psychosplit could be overcome by firmly clamping down on obsolete behavior mechanisms. Still, only few such suppressed people actually behaved in a “customer-friendly” manner, and the advantages of addressing the concerns of others (not one’s own) went largely unrecognized. Our predatory instincts were simply too deeply ingrained. Nonetheless, this perspective shows that the psychosplit is not an incurable scourge: its repercussions can be held in check.

I will skip the full, muddled history of human economics because the focus here is more on today’s situation and how we can overcome it. This brings us to a point in the recent past when our transportation had vastly improved, our industrial and technological progress had begun to take off, and when business and trade began to sell their ever more numerous and powerful tools, weapons and other useful products on expanding markets. This was the golden age of the semi-predator, who very successfully applied predatory strategies in many business sectors. The severe shortage of “goods” and the great need for capital to erect larger production facilities meant major profits for production and trade. Well-organized “full predators” set their sights on this scene and made a killing. The huge profit margins of that era elicited few howls of anguish because the system provided necessary goods, new and useful items. And much of the accumulated capital was plowed into other very useful investments. Customer satisfaction was a chance by-product, although de facto it did promote progress.

The next major leap in time lands us squarely in our highly industrialized era in which telephones, email, radio, TV and ever-faster means of transportation have reduced the world into Marshall McLuhan’s so aptly coined “global village”. We are better informed than ever – some would say over-informed – about events around the globe: we are all inundated with information, a flood that is often particularly hard for scientists to keep up with. Are the economic sectors becoming increasingly intransparent, and does this simplify the semi-predator’s game, much like the fisherman who might expect to more easily outwit the trout in murky waters? The opposite is the case! This very development prompted global suppliers to focus on ever narrower target groups. Although the global picture may be getting murkier for the individual, for business transactions in the modern world it has become increasingly transparent. Technical journals, personal communication, market research and computer technology have given businesses an increasingly clearer picture about international supply and demand. Like in a small village, the corrective influence of the community kicks in. Thus, internationally operating companies have begun to focus more on quality and “customer-friendly” service, and on being the “optimal problem-solvers” for their target groups. Interestingly, this process is not fueled solely by outside pressure, i.e. by a natural selection that weeds out miscreants, but by the growing awareness that boosting the profits of *others* is the best way to optimize your own profits.

We can clearly overcome the psychosplit that afflicts virtually everyone conducting business today. Insight into the underlying genetic causalities can reduce the “inner friction” in many sectors and to make overall human progress more efficient. As opposed to other economic doctrines, the underlying business strategy or life philosophy is based on specific, testable scientific hypotheses and not on mere opinion or isolated studies and experience. This is the appropriate tactic to counter the psychosplit and its effects. In science, simply asking the right question is often half the solution to the problem. This may apply here as well, even if the problem is by no means simple.

The difficulties begin with our understanding of the word “predator” as it pertains to animals and humans. Here, we restrict the interpretation to its meaning in animals, not the strong negative connotations associated with illegal, “evil” activities such as theft. When a goat eats a blade of grass, we hardly feel sorry for that blade even though, energetically, the process is clearly predatory: one organism is partially or entirely consumed by another, and its energetic and structural makeup is, quite simply, “robbed”. When a lion kills a gazelle, and the gazelle struggles and bleats plaintively, we cannot label the lion as being good or bad, even though it destroys life exactly like the goat. The control mechanisms behind both predatory acts, like the goat itself or the lion itself, are also neither good nor evil. The animals’ behavior is part of nature and is accepted by all moral teachings, even though we may feel pity for the prey. Can the fact that our early ancestors used their intelligence to improve these control mechanisms be evaluated negatively? Are agriculture and animal husbandry immoral? The answer from our own, egocentric perspective is a resounding “no”.

The transition from predatory principles to transactional practices was an innovation of cosmic dimensions. For over 3 billion years, with minor exceptions, energy was either gained by harnessing sunlight or by eating other organisms. This was now topped by a widespread third form of energy acquisition – transactional exchange. Again, good or evil are inappropriate terms to describe when our innate programs impede such exchanges. And these criteria are equally inapplicable to the “semi-predator” who emerged from this inner conflict. “Semi-predator” is an apt description because we gain energy through transactions but our behavior is influenced by the predatory instincts of ancient ancestors. This clearly transcends any notion of good or evil. The prefix “semi” is a simplification and therefore entirely imprecise. The activities of some may be 90% predatory, those of others only 10%. All, however, are affected by the psychosplit: all are influenced by innate maxims that block us from optimally exploiting our new line of business.

It all boils down to one thing: we must recognize that obsolete programs hinder business success. The losses incurred, whether they be 10% or 90%, are beyond dispute. They are the topic of this book. Simply being “ashamed” of these losses would be counterproductive. Rather, this book advocates promoting human development by soberly examining and then eliminating them. This is our only hope of ridding the world of a problem that has caused immense suffering and waste over the course of history. Today, the situation is exacerbated by our high birthrates and technological advances.

One might belittle the term “psychosplit” by saying that this split – this parallel set of controls – arose at the dawn of human intellect, i.e. at a much earlier date than I have indicated. All of us are confronted daily with the conflict between innate desires and reason. At the same time,

this book has already argued that the two worked together very harmoniously during the entire 2 million years that our ancestors lives as hunters and gatherers. In the last century, however, our technological advances – nuclear power plants, supersonic aircraft, environmental degradation, throw-away society, etc. – may fail to represent meaningful progress. In my opinion, no other conflict has had a greater negative global impact than what I have termed the psychosplit, affecting virtually every new generation of human beings. Again, neither the term “semi-predator” nor “psychosplit” are a priori negative: they merely describe a hurdle to human development.

I term the suitable strategy to overcome this hurdle “OBS”, as an abbreviation for “optimal bartering strategy” and “optimal business strategy”, which melds the theoretical with the practical³¹. This is not a close-and-shut economic school of thought, but an approach dedicated to promoting human development. The second part of this book outlines the key steps in this direction. Overcoming the psychosplit requires taking a much closer look at the innate predatory instincts of animals. The more we know about the incorrect advice they give us, the better we can shortcircuit them.

One of the difficulties in my presentation is semantic: how to unequivocally and vividly define the energy source we tap in the transactional process. In the animal world, the terms “prey” or “food” are valid. The terms applied when goods or services change hands are often quite restrictive. The purchasing process refers to “customers”, “target groups”, or “markets”. On the job market, the energy source is the “employer”, whereas services rendered for a company or for a state are stimulated by that company or that state. Need first becomes an energy source when some value – typically monetary – can be attached to it and when both partners seek the transaction. In the present context, money is the mediator that can tap some energy source.

Sigmund Freud showed that shocking experiences in early adolescence can induce traumas that are shifted into the subconscious and that can subsequently trigger neuroses. He also successfully demonstrated that the resulting psychological disorders can be healed by exposing the cause of the permanent psychological conflict. The psychosplit is a bit different but has underlying similarities. Rather than involving an individual history that has damaged some control mechanism, the psychosplit describes an many-thousand-year-old, fundamental conflict between our innate instincts and the new way we put food on the table – a new activity for which those instincts were not developed. The psychosplit is not innate, but conditioning automatically triggers it in every business transaction. It can only be reduced or eliminated by consciously recognizing our disruptive instincts and replacing them with more promising ones.

The second section of this book is devoted to this task.

1st Consequence:

If you seek profits, focus on the advantage of others

Our first task might as well be to tackle the most difficult aspect of the psychosplit – the huge gap between our misdirected predatory instincts and the optimal behavior for conducting business transactions. Nowhere is this more evident than in the recommendation to focus on the benefits of others rather than one’s own advantage when seeking riches or success. At first glance, this appears to be a bit off-beat.

Giving a gift to a friend or helping the needy is a good way to generate positive feelings. It’s only natural and pleasing to ponder over how to make your spouse and children happy, how to improve their lives. Over the course of history, giving your life for your country was a risk that many voluntarily and consciously took upon themselves. On the other hand, the idea of investing considerable time and effort to help a complete stranger gain some advantage would appear to be an eccentric or, at best, misguided whim.

Gaining energy through transactions, however, is based precisely on this approach – if our goal is to optimize the process. Superficially, emotion doesn’t seem to play much of a role in the shoe I manufacture and in the customer who ultimately buys it (to use an example from previous chapters). In fact, customer satisfaction is the key point. Although this stranger may leave me cold or even be quite disagreeable, he or she ultimately decides whether I can buy that gift for a friend or whether I can treat my spouse and children to something special.

The psychosplit is behind the fact that instincts detrimental to business emphatically urge us: “Think only of yourself and your advantage! This is the only way you can profit and increase your power and security! This is the only way to stay ahead of the competition!” The eye-opening phrase “business is business” says it all. In the USA, the fortified version is “business is business is business”. In his comprehensive “History of Materialism”, the philosopher and socio-political expert F.A. Lange wrote that business experience through the ages had “unmistakably shown that the individual can achieve material wealth only by ruthlessly pursuing his or her own interests.” In parentheses he further noted, “Virtue can then be shown in other areas, as far as the means allow.”

Nonetheless, there were always some who did adhere to the principles behind this transaction process and therefore behind the “optimal bartering/business strategy” (OBS). Over the last 100 years, a slew of important entrepreneurs took this road. To the disconcertment of their competitors they lowered their prices, improved the quality of their products, increased salaries, bettered working conditions... and still earned more than the competition. Examples include Ford I, Duttweiler, Bosch, Batá, Benz, Siemens, Woolworth, Zeiss, just to name a few.

Over the course of history, numerous schools of thought have advocated this strategy, at least in certain sectors. In business management, it was the marketing sector (Fig. 11)³². I am not aware of any approach that studied the problem more deeply or that more successfully applied the results than that of the Ergo-Cybernetic Management Strategy (EKS) published by Wolfgang Mewes in 1972³³. It enabled several thousand persons and businesses to achieve unprecedented success. This puts me in the enviable position of being able to present a number of practical examples that vividly illustrate the effect of the psychosplit and how it can be counteracted in practice. One of the many EKS case studies that Mewes published is an eye-opening example of how to neutralize the "semi-predator" in us.

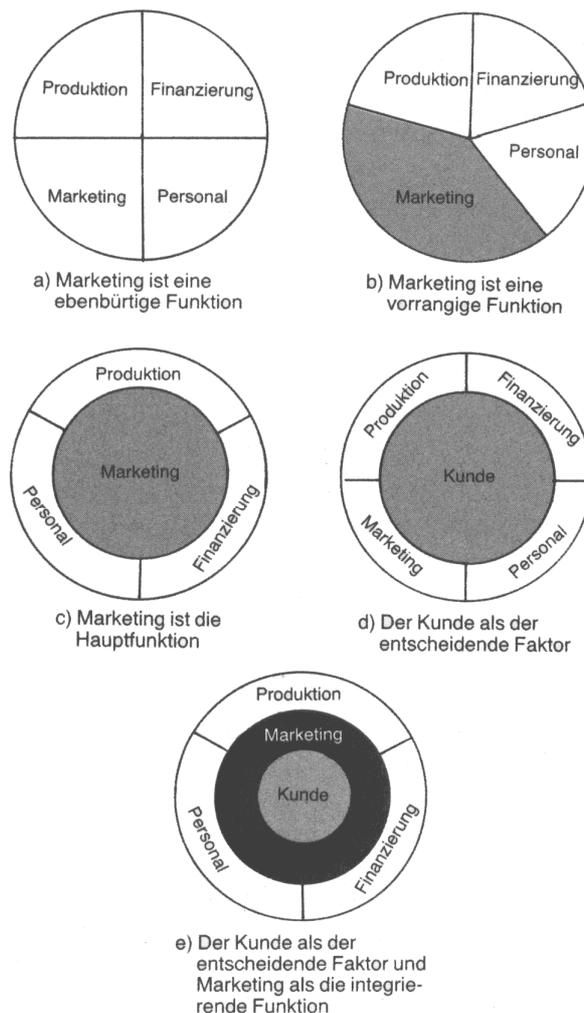


Fig. 11. The development of marketing. Large businesses in the U.S.A. only very gradually focused on the special wishes and problems of customers. Initially, marketing was given equal rank with functions such as production, financial planning, and personnel. Gradually (b-e), marketing became the decisive integration between businesses and customer interests (albeit more in economic theory than in practice). After Ph. Kotler 1980. Compare footnotes 32 and 34.

(a) Marketing ist eine ebenbürtige Funktion...Marketing is an equally ranked function, b) Marketing ist eine vorrangige Funktion...Marketing is a priority function, c) Marketing ist die Hauptfunktion...Marketing is the main function, d) Der Kunde als der entscheidende Faktor...The customer is the decisive factor, e) Der Kunde als der entscheidende Faktor und Marketing als die integrierende Funktion...The customer is the decisive factor and marketing is the integrating function, Produktion...production, Finanzierung...Financing, Personal...personnel, Marketing...marketing)

The case involves a small business, much like thousands of others, that found itself in a situation typical of our times. The Werner Kürner laundry business was located on the outskirts of a large city and was at the verge of declaring bankruptcy: turnover had stagnated, costs were increasing, employee morale was sagging, and the losses began to mount.

Kürner completed the EKS program and tried desperately to apply the EKS strategy to his situation. How could he survive the brutal competitive atmosphere in his branch of business? His profits had sunk to zero and he had trouble paying his employees: If he couldn't meet the payroll, he knew he was finished.

The EKS message was: "Don't run with the crowd, look for a niche in demand. Don't simply follow suit, but develop your own, highly tuned specialization. Catering to a narrowly defined target group more successfully than the competition opens greater opportunities than spreading yourself thin with the full range of customers." Kürner posed the crucial question, "Which type of customer can I cater to best? What burning need cries out for a better solution? Where is there a problem – regardless of whether the customer consciously recognizes it as such – that I can categorically solve?"

Kürner organized his thoughts and jotted down a whole range of possibilities. After a long thought process, he hit upon the idea of office curtains. Many offices attached great importance to having clean curtains, but had little time to devote to such matters. Cleaning them had become quite expensive and they also had to be taken down, brought to the cleaners, and put back up again – an annoying process. This was clearly a problem that many were bound to have.

Kürner calculated the going price for washing a square meter of curtain and how much it would cost him if he washed three times that many curtains every month. The calculation showed that he could deliver 30% cheaper. The prerequisite was that he actually received orders for this larger volume.

The EKS had taught him that it was better to give something a try than to brood over seemingly intractable problems. It also taught him that it was best to try every idea out on a small but representative subgroup. This doesn't cost much and minimizes risk. Kürner concluded that one such "subgroup" would consist of those offices in which the proprietor or the proprietor's spouse personally decided who received the curtain cleaning contracts. Such offices react the quickest to cheap prices. Kürner selected a conveniently located office district in the nearby city. And he selected the most favorable season for his offer, namely directly after Easter, when dirty curtains are most conspicuous.

He targeted this subgroup with a direct mailing campaign and offered to solve their curtain problem at 30% below the standard rate. His package included pick up and delivery, along with taking down and putting the curtains back up.

The result exceeded all expectations. Twice as many customers responded as would have been necessary to justify the reduced price. He decided to enter the fray and to undercut the competition. And new ideas kept rolling in. What about a subscription price for curtain cleaning? The customers receive an offer to have their curtains cleaned automatically and

rapidly, even during holidays, so that they no longer have to devote any attention to this problem. Tailor-made to their needs: cleaning once, twice, three times or four times per year. The pitch was that the office would always look its best, fully automatically, and at a further price reduction of 10%.

The advantage that Kürner saw lay in increased volume. This enabled him to work 40% cheaper than others. He plowed the profits back into winning new customers. His bargain price attracted whole series of offices in the business district, enabling him to rationalize his operations. The system had further improvement potential. The hourly rate for the pick up and delivery service, including taking down, washing and putting the curtains back up, provided only minimal incentive to his employees. The new approach allowed him to offer the employees piece rates or even group rates, which led to higher salaries, considerably better performance, and reduced control costs.

The gamble paid off. Indeed, it exceeded all expectations. The more profit Kürner made, the more he reduced prices and increased salaries. Although he had originally calculated a 30 to 40% reduction, he was ultimately able to offer a 70% depression. He expanded his promotional offer to one city district and one target group after the other. His emphasis on high quality and reliability drew ever more customers. He soon hired a sales representative to attract new clients. This agent earned a commission of over \$3000 in the first month.

Clearly, competition was a factor that Kürner no longer had to fear. No one could match his price. His service was perfect. His costs per square meter (minus the agent's commission) ultimately amounted to only 15% of the original costs. His business, which was once only a step away from bankruptcy, was not only saved but began to flourish.

How did the story end? Did Kürner expand his business to include other items? In keeping with EKS rules he did not. Rather, he sought partners in other cities and helped them to achieve similar success by specializing in cleaning curtains. The approach he chose was franchising, i.e. providing his experience in exchange for an interest in the business. Kürner hired a business consultant to certify the method and its success, which gave him a bona fide written certification of the process and its potential. He was thus able to offer his franchising partners a secure source of income, and he remained in constant contact with them. This again proved to be mutually advantageous. The experience gained at one location could be used to benefit all other partners. Rather than investing in new production capacity, Kürner made his living from his know-how and its ongoing improvement.

How does this amazing success relate to the topic of this chapter, i.e. the notion that you need to think about the advantage of others rather than your own advantage?

First of all, this case study has nothing to do with handing out friendly gifts. Kürner by no means acted "altruistically" in the classic sense of the word. Rather, he was fighting for his life. Nor was his behavior influenced by religious or moral concepts that exhort us to do good to our fellow human beings. His situation more closely resembled that of a plant that is being relentlessly overgrown and slowly withers away. Or of an animal that is starving and desperately seeks food in order to survive. Kürner merely applied his last ounce of strength in

a novel manner. A different strategy – the product of human intelligence – showed him the way.

The “social instincts” developed by group-forming animals, including our early ancestors, help ensure internal cohesion. Whether this be a pack of wolves or an ant colony, they behave as predatory units and bitterly fight others (even members of their own species). Within the group, however, these same individuals show a division of labor and a readiness to cooperate and lend assistance. Social mammals exhibit behaviors that closely parallel what we know as camaraderie, friendship and compassion. One of the key tenets of this book, however, is that the attitude we need to optimize our business transactions is not derived from our highly developed social instincts or associated emotions.

Human beings are unique in that they construct additional, “artificial” organs. This helps explain why conflicts between different human groups (from gangs to nations) have escalated so severely. In animals, conspecific conflicts (i.e. between members of the same species) typically involve food resources or, more broadly, the control of specific territories that serve as a habitat. Of course, humans also engage in struggles to snatch food and habitat away from others. Since the additional organs can empower any owner, this creates a powerful incentive to “gain” the possessions of others: the stolen goods can equally effectively boost the thief’s capabilities and power. This may be one reason why, within our own clan or group, we have honed and differentiated our social instincts in the form of morals, traditions, lifestyles, and art, but retain a distrustful, often hostile and predatory stance toward outside groups.

Among monkeys, for example, it is not unusual for one animal to quarrel over or take an object away from another member of the group. Most of these cases simply involve food, a sleeping place, or some “personal object” – there is not much else to steal here. In this sense, our additional organs have raised the stakes considerably. Our social instincts and the strong individual bonds created by language and intellectual development were apparently insufficient to stem thievery and murder, which were commonplace. This necessitated establishing a system of laws and a set of institutions charged with upholding them.

The above simply represents a logical chain of development. Producing and selling additional organs, however, created a new constellation, one that cannot simply be derived from interactions within ancestral clans. The relationship between a producer and an anonymous customer contrasts starkly with our innate friendliness and cooperativeness toward group members or acquaintances. Since we still need to put food on the table (even if indirectly), it is understandable and even logical that we applied somewhat moderated predatory strategies – namely what I refer to as semi-predatory behavior – to the new situation. Our instincts make us ill prepared for partnerships with an anonymous clientele. We must apply our intellect rather than predatory behavior to obtain the best long-term results in this new form of co-existence³⁴. This leads us back to our case study with Mr. Kürner.

Just like any other businessperson, Kürner sought success in the form of profit and money. Once he realized, with the help of the EKS program, the benefit of helping himself by helping others, he was able to cast off the chains of the evolutionary past.

In itself, the search for a market niche, as taught by the EKS, is not equivalent to the optimal business strategy. Even the semi-predator, influenced by the psychosplit, seeks and then occupies or exploits market niches. The key is therefore not “niche-oriented behavior” alone, but rather the intent with which those market niches are sought and then the behavior exhibited there³⁵. The crucial turning point for Kürner was when he switched from focusing on his own problems. If, from the economic standpoint, his customer-oriented behavior can be interpreted to promote the common good, then this is a positive side effect, *but not the motive for the action*. Whereas feelings have no place in the predator-prey relationship, the situation is completely reversed in business transactions. Here, one transaction decisively influences the next. A fully satisfied customer will considerably simplify and promote future business dealings.

The Kürner case study demonstrates a principle whose validity transcends small cleaning businesses to encompass virtually every profession and every business sector. Whenever the competition becomes stifling, whether you are a baker, an insurance agency or an engineering conglomerate, the question you need to ask is: can I obtain significantly better results by more intensively focusing on a particular subsector?

The emphasis must shift from boosting sales, better rationalizing production, or merely improving packaging. The answer is not to extract ever greater profits from the customer, charge higher fees for services rendered, or fuel demand. Rather, the task is to put yourself in the customers’ position and determine what needs, desires and ideas they harbor, which aversions, fears and problems influence their decisions. Kürner’s realignment was only achieved after he left his tangle of problems behind him and refocused on his clientele³⁶.

In the business world, this all reflects the first consequence for optimal transactional strategy. The Kürner case study clearly reveals how the psychosplit distracts our focus. Through conditioning, obsolete predatory instincts caused his thoughts to circle only around his own interests and the problems his business faced. This almost caused his downfall in the highly competitive business environment. The solution required a radical realignment of his thinking.

Another instinct control mechanism anchored in our predatory past is effective here, negatively influencing our business considerations via the psychosplit. When confronted with an opportunity to earn money, this misguided program not only whispers, “your advantage is all that counts”, but an inner voice also adds, “use this opportunity to the hilt.”

Such instinctive commands are useful and effective in most animal species. After all, times of plenty alternate with times of want in almost every habitat, and food reserves can often decide between life and death. Animals store energy in the form of sugars and fats. Or they store energy outside their bodies by creating depots, for example the caches of nuts that a squirrel buries. Some specialists have highly distensible mouths or stomachs, such as deep-sea fishes and giant constrictor snakes. A python, for example, can devour a pig weighing 20 kilograms and then go for a year without feeding.

In general, most animals instinctively exploit the opportunities they encounter to the fullest. In humans, this may well be responsible for the impulse we term “greed”, which goes beyond food to become “avarice” for objects that empower or in some way please us. “Money” as the

universal mediator again plays a crucial role here. Because it can be “saved” and converted into a wide variety of goods, its pursuit becomes a goal in itself. This makes almost every person a competitor with the rest of the world. In business, this instinctive mechanism, mediated by the psychosplit, leads us to over-exploit opportunities beyond the optimal level. If the goal is to develop a solid clientele, it is clearly a mistake to coax customers who happen to be in a spending mood into purchasing additional items they never wanted in the first place. This can undermine or terminate mutual trust, which is far more important than any one-time windfall. Equally, if you take on a job simply because it offers the highest pay, then your obsolete predatory instincts may have tricked you into making a serious mistake, namely if the lower paying job offered a considerably better career ladder.

In business, this negative influence leads many of us to take the bait and accept some convenient side job even though it diverts precious energies from the professional core activity and is therefore ultimately negative. The same influence causes businesses to overextend their product ranges. Having a finger in every pie inevitably dilutes your energies. Optimally responding to customer demand requires steadfast preoccupation with customer concerns. While grabbing an opportunity when it comes along may land a big deal or even open the door to a better job, it more often than not leads to setbacks.

Competition has always played a crucial role in evolution. The less fit fell by the wayside and the more fit were successful. Partnerships and synergies are also subject to selection. Such symbioses only survive when their combined structures bestow greater capability, better fitness. In business, the reduced competition in monopolies or in countries with centrally administrated economic plans inevitably stifles progress in key sectors. If improved goods, services or approaches can never reach the market, then it is not worth the effort inventing or manufacturing them.

At the same time, brutal competition does little to promote progress. The competitors in the individual sectors tend to drive each other out of business. While price wars may initially benefit consumers, both the consumer and the economy ultimately suffer. If a city has 30 bookshops that all offer the latest bestseller, then each shop must fend for itself as best it can. If, on the other hand, each bookseller specializes on a different focus group and tailors his or her selection to different types of readers – one on fiction and poetry, the other on children’s books and on young readers, on antiquarian books, gardening, paperbacks, etc. – then the city’s overall selection and individual customer service will have been considerably improved and the competition defused. Market economies yield an increasingly differentiated selection of products, leading to increasing specialization. The explosive speciation of animal and plants during evolution turns out to be a trend that perpetuates itself in the business environment as well.

We currently find ourselves in an evolutionary transition from energy gain through predation to energy gain through transaction. The behavioral programs that we inherited from our long chain of early ancestors impede this transition. Recognizing their underlying mechanisms can help us eliminate their negative impacts. The motto, “If you seek profits, focus on the advantage of others” is one of the key consequences arising from this approach. This is an egotistical affair and has nothing to do with “altruism” in the traditional sense, which makes the mental “about-face” we are called upon to perform all the more difficult. On the other

hand, if the OBS rule forges partnerships and human respect better than do our social instincts, then we should be willing to accept that it is driven by egotism.

2nd Consequence:

Not only the trodden path leads to success

Today, the citizens of Western industrialized nations are confronted with an interesting phenomenon. On the one hand, millions of people are unemployed and must be supported by taxpayer money. On the other hand, there are needs and demands almost everywhere that need to be met, and there are problems whose solutions would command handsome rewards. What lies behind this inconsistency? Does the psychosplit perhaps play a role here?

The case study involving Mr. Kürner showed how, even in an extremely competitive environment, jobs can not only be saved, but also created. After all, Kürner hired new employees after successfully turning the business around and, through franchising, passed his strategic experience on to others in neighboring cities. There is another, equally interesting approach that is applicable in almost every job situation and business sector, and the EKS program provides an excellent case study here as well³⁷. Mewes provided three bits of advice that helped a book-keeper, Mr. Brandes, to resounding success.

Brandes had successfully completed an accounting course, but was unable to land a suitable job. He thought that the problem might lie in his weak job applications, and he paid a visit to Mewes for coaching on how to improve the style and content of the applications.

Mewes compiled a performance profile of this customer using a so-called difference analysis (Fig. 12). The analysis showed that the accountant in fact had little chances of success. In almost every key sector he was inferior to any halfway experienced accountant. On the other hand, the analysis revealed a unique quality that Mewes suggested he "nurture". Brandes once worked for a company that had erected a new plant on the country's border. In this particular field, Brandes had acquired exceptional skills and knowledge. In order to promote development in such regions in the various provinces, the German government had enacted numerous laws designed to attract investors. Businesses that settled in such disadvantaged regions were granted numerous advantages on the federal, state and county levels. Those who knew the ropes reaped major benefits and savings. Mewes writes, "In this sector he knew more than most other accountants, but in other sectors he knew less. Developing a special niche, however, only makes sense when a demand exists. We tested the market by placing a job advertisement in which Brandes offered his services as a "specialist for regional subsidies".

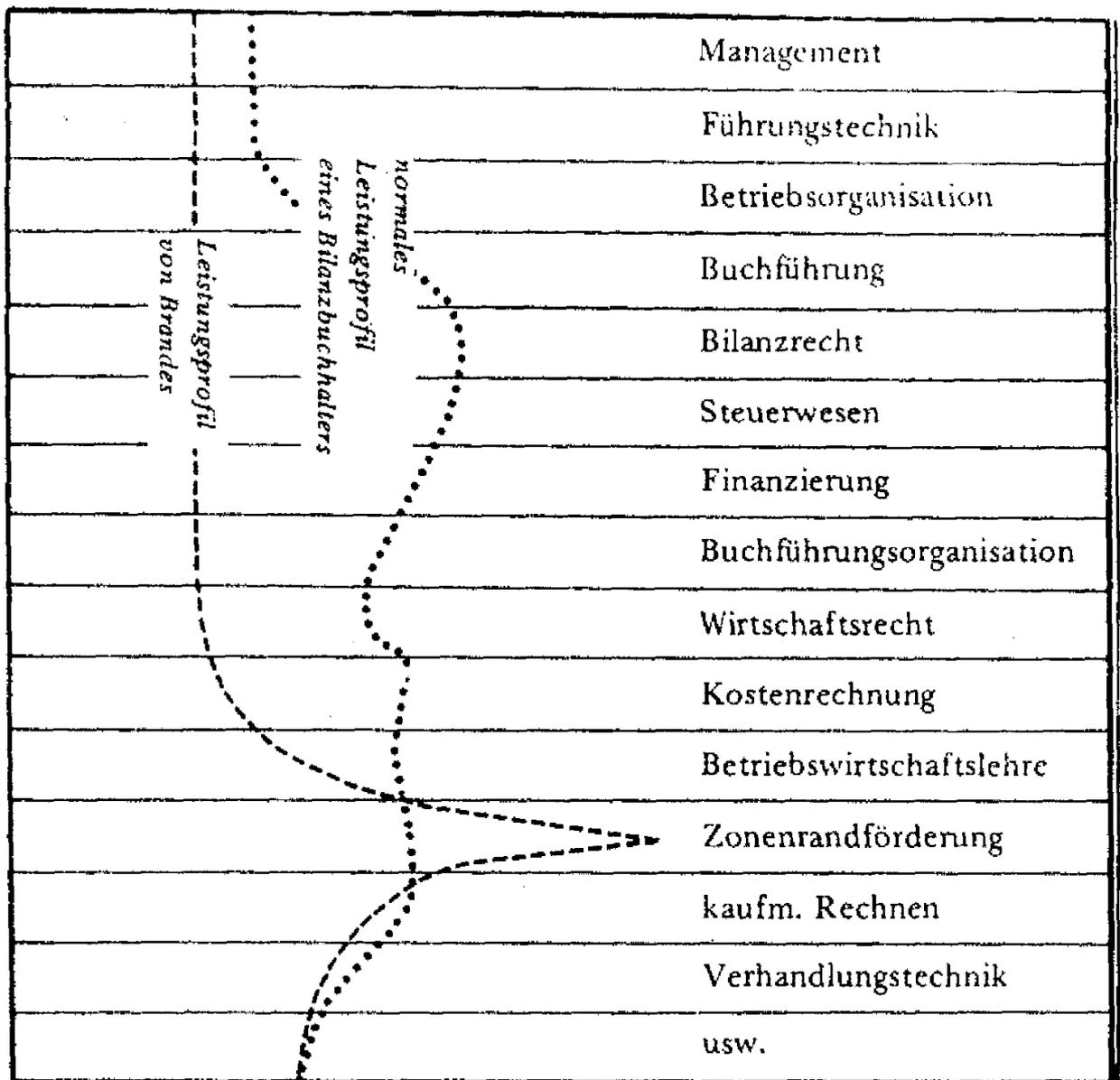


Fig. 12: *The performance profile of the balance accountant Mr. Brandes* (see text). From W. Mewes 1972-1976, Lesson I.

(Management...management, Führungstechnik...leadership techniques, Betriebsorganisation...business organization, Buchführung...bookkeeping, Bilanzrecht...balance law, Steuerwesen...tax, Finanzierung...financing, Buchführungsorganisation...book keeping organization, Wirtschaftsrecht...business law, Kostenrechnung...cost calculation, Betriebswirtschaftslehre...business management, Zonenrandförderung...regional subsidies, kaufm. Rechnen...business calculation, Verhandlungstechnik...negotiating skills, usw...etc., normales Leistungsprofil eines Buchhalter...normal performance profile in accountants, Leistungsprofil von Brandes...Brandes' performance profile)

No less than 42 offers came pouring in. For Brandes, the situation had taken a dramatic turn. In all his past interviews, personnel managers had unmistakably let Brandes know that "many

more applicants were standing in line if Brandes wouldn't accept the dictated conditions". And during his interviews, he had difficulty concealing the thought that "all the pain and effort will have again been for naught if this job doesn't come through." Now, however, Brandes encountered an entirely new interview atmosphere. Mewes: "Because a specialist for regional subsidies was a rare bird indeed, prospective employers took a great deal more time in negotiating with him. His imperfect skills as an accountant played virtually no role at all – the emphasis was solely on his special skills."

At his new job, his task was to find the most advantageous site for a planned branch, to calculate costs at each prospective location, to prepare the necessary negotiations, and to seek optimal tax benefits and other advantages. "Backed up with a few more EKS suggestions, it was a mere two months before he was more versed in this sector than any competitor."

Although he initially had only a small headstart, his proficiency increased in leaps and bounds. New and vital information seemed to automatically pour in from all sides, he made important business contacts, and his knowledge consolidated until he was the recognized capacity in the field. The deep-seated fear, apathy and isolation associated with his past failures were converted into increasing confidence, optimism and energy. He soon became the office's acknowledged contact for building and outfitting the new branch. He had the organizational know-how, the best hiring skills, and the negotiating talent to deal with government authorities. When the board of directors sought an administrative director for the new plant, his name logically came up in the list of candidates. Mewes: "The story could have evolved differently, yet once the ball begins to roll, inertia tends to move it in a particular direction". In this case, Brandes became the administrative director and received a major raise only 18 months after first being hired.

This new position opened many new doors. His reputation and image, along with his confidence, grew. His name became mentioned in high places. His influence and status in the parent company increased.

At the same time, Brandes recognized that he lacked important qualifications for the new task. This once again led him to Mewes, who was entrusted with helping him "gain intellectual ground as rapidly as possible."

Any other consultant would have jumped at the opportunity. Brandes was "excellent material" for the next career step: all that was necessary was to consolidate and build on his capability. The EKS, however, took a different tack. Mewes reported: "Why expand into new sectors that others have better mastery of and where the chances of success are slim – especially if you haven't yet reached the peak in your own field." After all, "Top-notch ability is better rewarded, and more rewarding, than all-round knowledge."

Rather than simply dealing with the branch director's immediate problems, a new and more sophisticated trial balloon was released. Under the bold headline "special consultant for regional subsidies", the advertisement asked: "Is your site still optimal – Do you need better motivated employees? – Do you want to produce more rationally and cheaper? The subsidies for building a facility in a border region can exceed your construction costs and improve your

liquidity. Specialist can help in planning, establishing contacts, site selection and calculation, negotiations, hiring personnel and raising capital... .”

This advertisement elicited more than 80 responses. Queries rolled in not only from potential clients, but also from business consultants, building contractors and business planning offices. Financiers, banks and venture capitalists also came knocking. And every new contact opened the door to a whole series of other potential clients. This prompted Brandes to quit his new, promising job and become an independent consultant – a businessman.

In the following two years he was responsible for completing 18 construction projects in addition to his normal consulting activity. He became a recognized name. Trade organizations, professional associations and other business sectors vied for his attention. Foreign firms and investors sought his advise, along with municipalities, ministries and aid agencies; representatives of underdeveloped regions came knocking at his door. A mere four years ago he was mired in a struggle to land a job as an accountant, and now he was confronted with the problem of rejecting interesting business propositions.

The story doesn't end here, though. Mewes once again stepped in to fine-tune Brandes' career. This time the effort basically involved changing two words. One of the EKS guidelines states: "Don't specialize on a burning, short-term demand, but set your sights on a long-lasting basic need!" The assumption in the case of the regional subsidies for underdeveloped zones was that this system would remain in place for some time, but this was by no means certain. The solution was to change Brandes' job description from the highly profitable "Specialist for regional subsidies" to the far more stable and crisis-proof "Specialist for siting problems". In industrial nations, such siting problems exist in every city and at any moment in time. Whenever a new facility is built, the same question arises: "where is the optimal site?" In particular, large corporations must increasingly deal with the issue of which production sectors to shift to developing countries with more favorable wage levels. What advantages can such sites offer? What risks might cancel out these benefits?

This third strategic piece of advice not only freed Brandes from the potential legislative vagaries in his own country, but opened up the international market for him. A mere five years after beginning this career, he and his new staff were busy scouting opportunities for setting up businesses in Berlin, former Yugoslavia, Ireland and Spain. This was followed by Turkey, the Bahamas, North Africa and an ever-expanding range of countries. Brandes and his partners increasingly specialized in making package deals that included project planning, design, funding, construction and furnishing – basically delivering fully operational facilities. The tree was firmly planted and the branches could now begin to grow and bloom.

Mewes' comment: "Was this success attributable to exceptional intelligence, energy and funding? Or was it merely a better strategy, a more effective application of an entirely normal level of effort?"

Clear parallels can be drawn to the case study involving Kürner. Brandes' approach clearly did not involve altruistic considerations in the sense of universal mores. His goal had been to gain a decisive advantage over potential competitors. And if he decided to retire early, he could easily license his know-how, his experience, to others. This was laudable because it helped

the economy at every level. While Kürner did snap customers away from his competitors in a very narrow sector, he entrusted those very same competitors with former clients whose other cleaning needs he no longer fulfilled. If someone approached him with cleaning job that did not involve curtains and drapes, he referred them to the competition. He therefore actually helped defuse the competitive stress. In Brandes' case, no one suffered negative repercussions because he created a new job sector from scratch. In fact, Brandes even fostered emulators by serving as a role model – clearly without any intention of “doing a good deed”. New jobs arose “out of the blue”.

This is particularly important from the OBS perspective. The idea is to determine where human progress leads to opportunities to solve budding problems, i.e. those that may not yet have been fully recognized. Predatory business tactics – the psychosplit – complicate this task because predatory instincts are directed at specific prey items. Here, human fantasy creates a new dimension and provides a new impulse that can be promoted by strategic measures.

Mewes writes, “Since 1900, the functions (tasks) in the German economy have specialized at a ratio of about 1 to 10,000, but in job applicants this proportion lags behind at perhaps 1 to 100. The result is that our economy and society have developed an underlying need for countless new professions; these, however, are only recognized once the new professions or capabilities enter the market, i.e. once we register them on our radar screens. Kürner conquered a new business niche by targeting the needs of only a few. Brandes, on the other hand, took a different course to escape the competition, not by identifying a gap in the existing spectrum of occupations, but by focusing on a need that no one had previously exploited commercially. He successfully pursued a new business opportunity off the trodden path.

Neither of these strategies are new. Both have promoted evolution over the last 4000 million years. In countless cases, ever stronger competition gave rise to new species that were more adept at conquering some part of their habitat. Darwin was among the first to show the motor behind this development: more progeny are produced than can survive, and these progeny differ in their features rather than all being the same. Such variations typically reduce the chances of survival, but in some cases improve fitness, either compared with “normal” conspecifics or in new habitats.

If, among the thousands or ten thousands of young that a pair of fishes can produce, one individual develops an elongated, forceps-like mouth rather than the normal mouth shape, then this fish is less efficient in hunting the species' normal prey. On the other hand, it can do something that its conspecifics cannot – it can use its elongated mouth to capture small animals hidden in narrow spaces, prey which is inaccessible to its siblings. This trait is hereditary and the animal passes it on to its progeny. In successive generations, additional mutations may further reinforce this “deformity”, leading to an even thinner and longer jaw apparatus. This enhances the advantage, ultimately giving rise to a new species capable of utilizing a new source of energy – much like Kürner and his franchising partners in the midst of traditional cleaners.

The path that Brandes chose to escape stifling competition is equally important in evolution. Altered genetic make-ups can also yield capabilities that enable entirely new life strategies. A

striking example is the development of multicellular organisms from the unicellular organisms. This involved a minor behavioral change in which the individuals arising from division did not separate but adhered to one another. This led to aggregations that, over the course of evolution, developed a division of labor within the resulting "colonies". We ourselves represent such a structure. It also led to new structures and behaviors that enabled certain aquatic plants and animals to conquer dry land. This step, taken 400 to 350 million years ago, gave rise to all modern terrestrial organisms. We can cite a much more current example – the very rapid appearance of new, "resistant" bacteria and viruses that no longer respond to medication and therefore successfully conquer "new habitats" – namely the human body.

The very same principle is involved when we introduce innovations that open up new opportunities. Whether this process is driven by chance or intelligence is inconsequential. What counts is success. For Brandes, both these factors played a role: intelligence (that of Mewes) and chance (the fact that Brandes called upon Mewes in his effort to land a better accountant job).

Let's return to the psychosplit and to the problem of unemployed persons living in regions where there are many needs that are not being met. Why do the available opportunities go unrecognized? Are misguided instinct control mechanisms at fault? Why did Kürner and Brandes need outside help to switch their behavioral strategies?

The simple answer is: because intelligence or fantasy alone, knowledge and "a feel for the business", were insufficient. But this still isn't the full story. The semi-predator's psychology is also at work here: the psychosplit reinforces ineffective, misguided approaches and blocks creative personal initiatives.

The psychosplit, which emphasizes "me" rather than "you", also sensitizes us for the behavior of our competitors. Who in Kürner's or Brandes' position wouldn't wrack their brain about what the more successful competitors were doing. "How do they do it?" "What am I doing wrong?"

In predatory animals, focusing on the competition is a very useful strategy. This can yield valuable clues as to where the prey is, reducing foraging time. It can also expose enemies in advance, enabling a more rapid escape. This has been termed "social facilitation" in ethology and describes the phenomenon in which a "specific motivation" is more or less rapidly transposed to other individuals. It also applies to humans, as exemplified by panic behavior and mass plundering, for example. In another type of instinct, sexual behavior, the effect of pornographic photographs or films clearly demonstrates how outside behavior can trigger "motivation", "appetitive behavior", and instincts in others.

In business, this incitant effect also plays a crucial role. Whenever someone hits paydirt, others are quickly on the spot to get a piece of the action. A classical example is the Gold Rush in California, where hundreds and thousands of people dropped whatever they were doing and committed their hopes to an entirely different, uncertain future. The history of the stock market reveals similar phenomena, with money once again being the overpowering key stimulus. The prospect of obtaining this magic wand in a windfall is electrifying.

I myself have experienced the lightning speed with which instinct mechanisms can reverse a behavior. The occasion was the attack of a great white shark on an isolated reef in the Red Sea. At that time I had spent more than a decade studying how sharks behave toward divers, and I thought pretty much knew it all. The shark species that inhabit tropical shallow-water ecosystems are actually very shy: humans simply don't fit the "innate prey scheme" that triggers their aggressive behavior.

On this particular day I was involved in a film shoot and had thrown fish cuttings into the water. On a vertical coral wall I had a three-meter-long reef shark in my viewfinder, and it was behaving precisely as expected. The shark had been attracted by the smell of blood and was clearly restless, yet interested only in the source of the scent, not in me. It approached several times and I was able to get some good footage. All of a sudden, I felt a movement and saw the head of a four-meter-long great white shark directly next to me. It had approached from the side without my knowing it. This relatively uncommon species prefers the open sea and apparently attacks anything it encounters in this vast expanse in order to test its suitability as food. Although I have given a detailed account of this encounter elsewhere, let it suffice to say that I was able to push its head aside with my bare hands. I then quickly grabbed the harpoon slung across my shoulder and rammed it against the shark's head when it returned for a second pass³⁸. The reason I bring this experience up here is because of the effect it had on the behavior of the first shark. Completely unexpectedly, it also began to attack me from the other side. This was a clear-cut case of food envy! But you can only swing a harpoon from one side to the other in very slow-motion under water, so my only other option was to flee directly up the wall while somehow fending off both sharks at the same time. As luck would have it, the tide had fallen and the water depth over the reef was a mere 50 cm. This provided a refuge for me along with my wife and a colleague who had observed the whole event from the surface. The two sharks swam back and forth along the reef edge in a very agitated manner until they finally calmed down and disappeared into the blue.

Under certain circumstances, humans can equally rapidly reverse their behavior. In panic situations, reasonable thought shuts down entirely. Although the reaction may be somewhat slower in the business environment when avarice is paired with the opportunity to make a big profit, the effect on the decision-making process is all the more long-lasting. Role models can exert a similar effect, as can fashion, advertising, group behavior, warmongering, or simply a mesmerizing and talented speaker. These situations lure people into missing opportunities that they might otherwise have had – much to their detriment. The well-trodden path can also have an "incitant effect".

One other instinct behavior that can hem personal initiative is worth mentioning here – the so-called "expulsion reaction". In social animals this is expressed when members that deviate from the norm are attacked, chased off, or even killed. In humans, this innate tendency is considerably amplified by morals, traditions, religion and other firmly held convictions. Those who break away from convention pay the price. At minimum, society looks askance at "outsiders" who don't fit the norm. The group will turn its back on such persons, isolating them and making them an object of ridicule. Many an inventor or scientist who expanded our horizons suffered this fate. In many cases, those very persons later became famous and were made into role models. For their contemporaries, however, they aroused suspicion and were at best ignored, at worst actively persecuted.

This also tended to dampen our inclination to pursue “new paths” and explains why certain good ideas were nipped in the bud. On the other hand, history is full of people who resisted the “madding crowd” and remained unswayed by the disapproval expressed toward them as “outsiders”. Their creative impulse was stronger than all inhibitions and counter-reactions. In the business sector, this often spurs resounding successes and astonishing careers, the kind that make people shake their heads in disbelief and ask, “Why didn’t I come up with that idea?”

In 1972 a man named Siegfried Eberle in the small German town of Graben near Augsburg inherited a farm from his parents, a business that everyone agreed “had no future”. What quirk of fate prompted Eberle to come up with his unusual idea went unreported, but he decided to plant nothing but strawberries on his land. In every nearby city he advertised on large billboards “come to Strawberry Paradise!” Those who picked their own strawberries paid a mere 37 cents instead of the \$1.40 to \$1.75 per pound that food stores were charging. Every visitor could pick the plumpest and juiciest strawberries to his or her heart’s content. The success proved the power of ideas in this world. Strawberry Paradise drew customers from as far away as Munich. And they came in droves. Eberle’s next step was to lease 20 properties totaling 1.5 million square meters and transform them into “Europe’s largest Strawberry Paradise”. Three years after the idea was born, he had already earned \$1 million.

A second case study: An economist by the name of Förster, who held the general power of attorney for a Dutch paper concern, came to realize that his ideas were falling on deaf ears. Had he acquiesced and simply endorsed the opinions of his higher-ups, he would probably have been elevated into the board-of trustees within a few short years. Instead, he purchased an ancient, mothballed papermaking machine – and quit his job.

The next step was to lease a cheap piece of property next to a branch line of the German Federal Railway. He set his machine up on a field and erected a simple yet functional shed around it. He then hired three trained workers from his former company who knew how to operate his sturdy, low-maintenance machine and rounded off his team with a few unskilled laborers. Förster’s idea was to concentrate on producing only a single type of paper, namely raw paper, for use in manufacturing corrugated board. With his old and trusty machine he did this at such a low price that the customers literally began lining up at his door. He left production up to an experienced master-craftsman and all the administrative duties were assumed by a single, enterprising secretary. He became the one-man sales department: “90% of what a modern paper maker and mechanical engineer needed to know was not only entirely superfluous but also bewildering and disrupting for his production”. The result was a private economic fairy tale. At a time when virtually the entire paper industry was operating at a loss, Förster achieved a profit of \$1 million on sales of \$3.5 million.

On the other hand, like many other EKS-graduates, he ended up “straying from the path”³⁹. With the capital he made, he built a state-of-the art factory with the five-fold capacity of his original facility. This plunged him into the same cost considerations, the same advantages, disadvantages and constraints facing all the other paper manufacturers, forcing him to operate on the same level. The golden age had passed. Escaping the tumultuous competition had been the key to his success. By rejoining the fray, the pressure was back on.

Those who know something about Japan, know that personal cleanliness and hygiene are held in higher esteem there than virtually anywhere else in the world. More than 30 years ago I had filmed military personnel and civilians wearing masks in front of their mouths to block out dirt and bacteria. Some time ago, an enterprising man from the smog-laden skies of Tokyo came upon the idea of selling oxygen-filled cans for 100 yen at specially designed bars. The customers – and there were many – opened the cans and deeply inhaled the precious elixir. So great was the success that competitors soon appeared who also offered canisters filled with oxygen, but this time in 5 liter containers for 700 to 1500 yen.

Such successes serve as case studies for the OBS and for overcoming the psychosplit – but only when the new idea is based on the needs of others. Eberle fulfilled the wish of many people who apparently wanted to pick the best strawberries themselves; Förster delivered the desired quality at an unparalleled price; the Japanese entrepreneur delivered something special that the customers took an instant liking to, regardless of whether it actually helped them or not. While the borderline to the semi-predator may be rather thin here, the key criterion – focusing on the needs and satisfaction of others – remains.

A particularly appealing element of the EKS developed by Mewes is his motto, “Everyone has a chance!” The underprivileged, for example, who come from a poor background, or those whose physical or intellectual capabilities put them at a disadvantage, often lack the confidence or ability to take on job opportunities that are open to them, *and in some cases open specifically to them.*

Mewes told me the story of how he looked out his office window one day to see a severely handicapped man hobbling toward his doorstep. The immediate thought was, “How on earth can I counsel this man?” The customer turned out to be a correspondent for a shoe wholesaler and had handed in excellent homework as a participant in the EKS-curriculum. Mewes was unable to understand why this man’s career was floundering and had therefore offered to give him a personal appointment. The man had never mentioned anything about his foot problems. “The discussion initially led nowhere. I was so distracted by his handicap that despite my best efforts I was unable to unearth any special talents that could be expanded upon. On the following day, however, it dawned on me that his special strength lay precisely in his handicap.” At that time, the medical consensus was that foot problems were so unique that they could only be corrected by custom-made shoes. With Mewes’ prompting, the man devoted his energies to this problem and soon convinced the manufacturers to tackle this problem with series production. He showed the retailers how to modify their display windows to appeal to this target group. Within one-and-a-half years this side job had become his main job. First his employer showed interest, then the wholesaler association followed suit. “Based on his experience he was able to calculate the progressive market shares and sales which could be expected, how much needed to be invested, what costs would arise, and what profits might be expected.” He became a successful expert on orthopedic shoes.

A doctor who had become disfigured after a car accident was named director of a special clinic for facially disfigured patients. A nurse in Vienna who became blind had the talent for being able to detect breast cancer manually before other more modern procedures showed results. She kept her job and the hospital even hired a second blind nurse for this particular diagnostic routine. A guest worker proved to be the ideal consultant to help solve the

problems of other guest workers. A businessman who went broke became a special consultant for bankruptcy procedures and rehabilitation measures. The number of such case studies could be continued indefinitely. Those persons who have mastered some difficult situation in their own lives are often best equipped to help others in similar situations.

Many different forms of business are just waiting to be discovered and utilized. The psychospit complicates this process because it focuses thoughts on “me” rather than “you” and therefore obscures job opportunities that arise when others have problems. “Social facilitation” and the public reaction to those who deviate from the norm further suppress personal initiative and keep us from leaving the “well-trodden path” of traditional job markets. In an age of ever more rapid technical advances and associated opportunities, we are called upon to optimally match supply and demand.

This is the subject of the next chapter.

3rd Consequence:

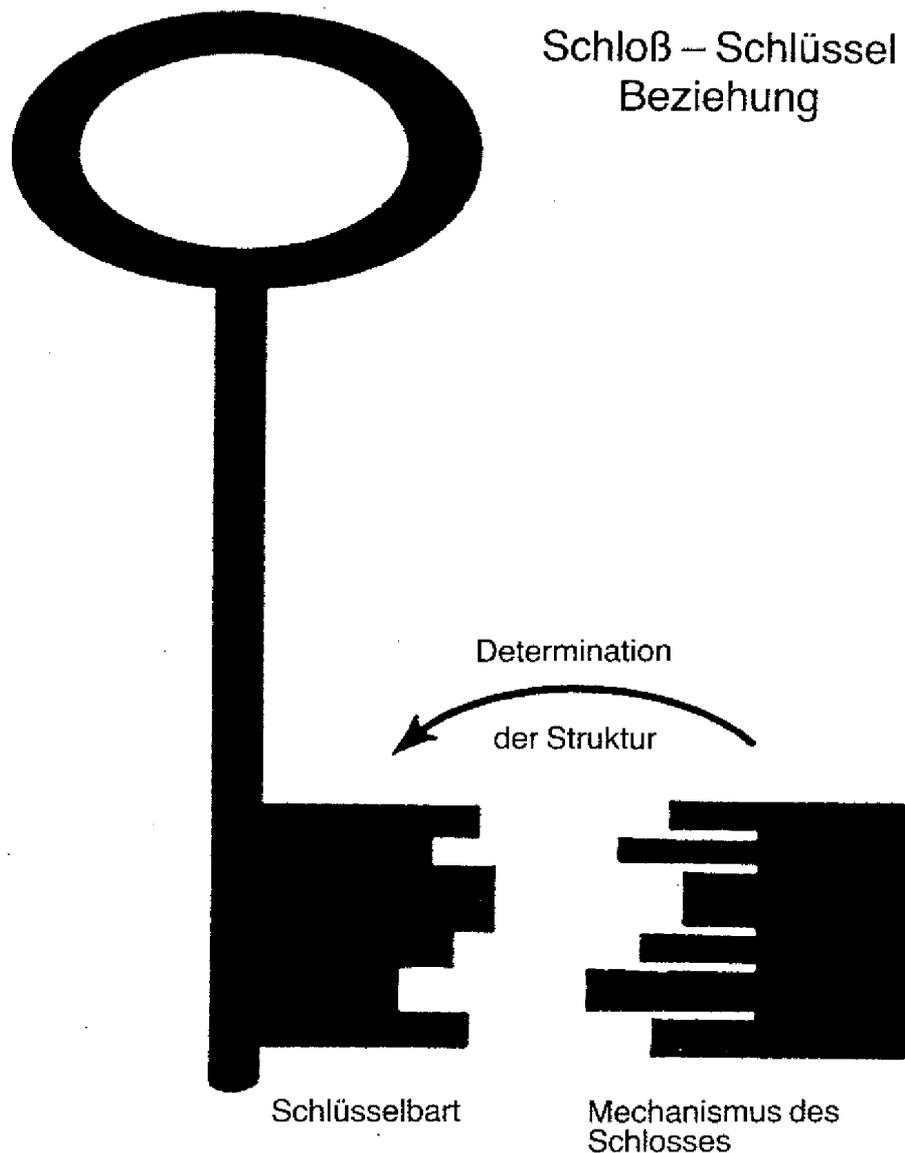
Be the best possible key for the right lock

Imagine a safe containing a stack of money, and you had a key to open that safe. Then it turns out that the key doesn't fit – it proves to be useless and you cannot gain access to the cash. Or, in a variation of that theme, perhaps the key fits, but when you swing the door open, the safe turns out to be empty. Both scenarios leave you without any money.

The first premise of this book outlined the vital role of energy gain for all organisms. Without energy there can be neither work nor movement and life cannot exist. Every organism must therefore be structured in a manner that allows it to gain energy.

Regardless of what that energy source looks like, it can be compared with the money safe. Every organism relies on being able to open such a safe. Having the correct key fulfills the first prerequisite for survival and further development. But it is by no means a free pass. If a beetle is squashed by a falling rock, then its potentially excellent energy-gaining capabilities are irrelevant. Nonetheless, every organism that can tap energy has fulfilled the basic requirement for what we know as “life”.

More highly developed animals can learn, i.e. they can improve their behavior based on experience. Nonetheless, they must make do with the bodies they were born with. Some organs can be adapted to particular environmental conditions or recurring events, such as muscles that develop more strongly if they are frequently used. Even the ability to learn, however, does not enable an animal to produce additional organs. In the lock-and-key analogy, they are incapable of significantly modifying the key that their body represents. Unlocking or extracting energy means a chance to survive and reproduce. Failing to do so means elimination (Fig. 13).



*Fig. 13: **The lock-and-key determination.** Every organism, every worker, and every business (company) must exhibit a positive energy balance. They must extract more energy from environmental sources, either directly or via money, than their overall activity requires. Their relationship to that energy source corresponds to that of a key to a lock that needs opening (Energion theory). The bit of the key must mirror the lock mechanism. The lock contributes no energy at all to producing the key, but nonetheless still determines the configuration of that bit (see text for details).*

(Schloß-Schlüssel Beziehung...lock-and-key relationship, Determination der Struktur...determination of the structure, Schlüsselbart...bit of the key, Mechanismus ds Schloßes...lock mechanism)

Who, we may ask, is responsible for shaping the bit of the key, or – to use a business term – the performance profile? Perhaps the process can best be illustrated by examining how real keys are made. If I commission a locksmith to make a key for an existing lock, then who created the key bit?

On the one hand, the locksmith of course. He cut and polished the bit and physically produced the key. The key is definitely his piece of work.

On the other hand, the locksmith bears no responsibility for that bit's actual shape. After all, he merely fashioned it so that it precisely fit the mechanism. He or she therefore had no leeway in cutting the bit. Although the lock in no way actively participated in producing the key, *it nonetheless dictated its particular shape*.

Perhaps it helps to go underwater to spawn such ideas, but my diving activities as a researcher in coral reefs literally compelled me to formulate these thoughts. Each and every colorful and improbably shaped fish that I encountered was a key that was capable of unlocking some energy source. The manner in which each fish moved across the reef was proof of this capability: it sought its prey with great agility and fled with lightning speed when danger approached.

The prey – the food devoured piecemeal or swallowed whole – was the energy source. Yet who created the fish's shape and determined the organization of its body? In the locksmith case, the lock mechanism defined what shape the bit had to have in order to open the door. For the coral reef fish that swam past my mask, the prey was the lock that had to be opened. The prey's shape and structure, where it tended to hide, and how it behaved determined the predator's features and, ultimately, whether it was capable of consuming that prey.

Early humans, high and dry on land, were the only organisms that proved capable of improving their own bodies with additional, artificial organs. Their energy source, just as in the coral reef fishes, was also food in the form of plants or other animals. Their additional organs – stone missiles, bows and arrows, pit traps and, today, rifles – enabled them to far surpass animal competitors. We have since shifted our strategy to indirectly procuring food through transactions. We now specialize in producing certain additional organs or providing certain services, sell these to interested persons, and then purchase food harvested by others with the money gained from the transaction. Or we buy the services or some other product that others produce.

The process is actually somewhat more complicated. Essentially, in the first transaction, one key (a product or service) was used to purchase another, namely money. And this universal key could then be used to purchase food or to satisfy virtually every other need.

Earning money required satisfying a need. The person with his or her needs or requirements therefore becomes the lock that must be opened. What configuration does the key bit have to have? Who determined the necessary "performance profile"? Clearly the customers. Their specifications determine whether they were willing to part with their money.

These considerations led me to study human organization, in particular human energy gain. I investigated energy-gaining systems, regardless of whether they were plants, animals, employees or businesses. The goal was to determine whether these so very different expressions of life could be comparatively evaluated based on energetic considerations. Might the full range of shapes and structures be explainable based on the same rules and laws?

For us, few decisions are as important as choosing our profession – what we will do to earn the money we need to live and prosper. The crucial consideration in business transactions is customer satisfaction. Therefore, I cannot tailor my goods or services to my own wishes and desires, but rather to those of my business partners. They are the lock and they determine – without so much as lifting a finger – what I should be selling in order to make the deal. Rather than relying on the wisest of teachings, I must judge the customer’s reaction to determine what I can sell.

The practical conclusion of this train of thought, which was born in a coral reef and presented here in a greatly simplified version, is cut and dry: successful businesspeople cannot concentrate on themselves and their problems, but must focus on their clients. The more successfully you help them solve their problems, the greater your own benefit. They are the lock, you the key.

This relationship ultimately determines how we must proceed in order to successfully tap energy through transactions. The first step is to determine: what kind of key am I? What capabilities and means do I have? What does my performance profile – my “key bit” – look like?

The second question can only follow after the first is clarified: what locks can my key open? Who are my ideal partners in the transactional process – what needs, whether they be products or services, can I fulfill?

The subsequent course of events is then largely predetermined. The intelligent person can actively seek out the ideal partner, someone that he or she can supply with goods or services better than all others. Once the fit has been established, the future prospects are good. In the natural environment, successful animals and plants are those that best reflect, and that best adapt to, the energetic framework. Not actively, but passively, because the less “fit” fall by the wayside. The business environment is no different. Once a key has matched a particular lock, then the lock controls subsequent development here as well. When mutual advantages are involved, then this control is not merely passive and the process accelerates. It is in the customer’s own interest to support suppliers that fulfill his or her requirements.

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This first strategic step yields a list of more or less realistic specific abilities and possibilities. The second step involves searching for the most promising area of expertise, i.e. defining “special skills”. A crucial aspect here is the inner dialogue and, if need be, input from friends: where am I better than the competition? What special talents can I nurture to get a better head start?

A quick look at plant and animal evolution clearly reveals the radical difference to the business world. Whereas every plant and every animal must make do with its body, we can rapidly adapt to environmental changes with additional organs and new control mechanisms. Over history, the number of occupations and professions was actually quite limited. Today, however, the opportunities to earn money by serving others have exploded. The only prerequisite is recognizing the underlying needs and desires.

In a third step, the EKS program raises the question: What problems in what target group am I in a unique position to solve? Where can I find the greatest demand for my services?

Mewes lists numerous examples of how people make the mistake of choosing problems that are too large and then find themselves unable to quickly develop a distinctly better solution. The biggest mistake is not to focus narrowly enough on the most promising piece of the cake.

The final four “phases” in finding the right career or the appropriate business sector ask: What locks can my key open best? What target group can I serve the best?

Again, Mewes very methodically begins by compiling an uncritical inventory of the possibilities and then narrows the choices down to a realistic range. The criteria are “realistic problems that realistic target groups have” rather than “opinions” or “scientific theories”.

Mewes: “The EKS strategy is to consciously analyze and close the gap between the client’s capabilities and the realities of the target group. This gradually improves the mesh between personal capabilities and target group factors. The key then fits the lock”. (Fig. 14)

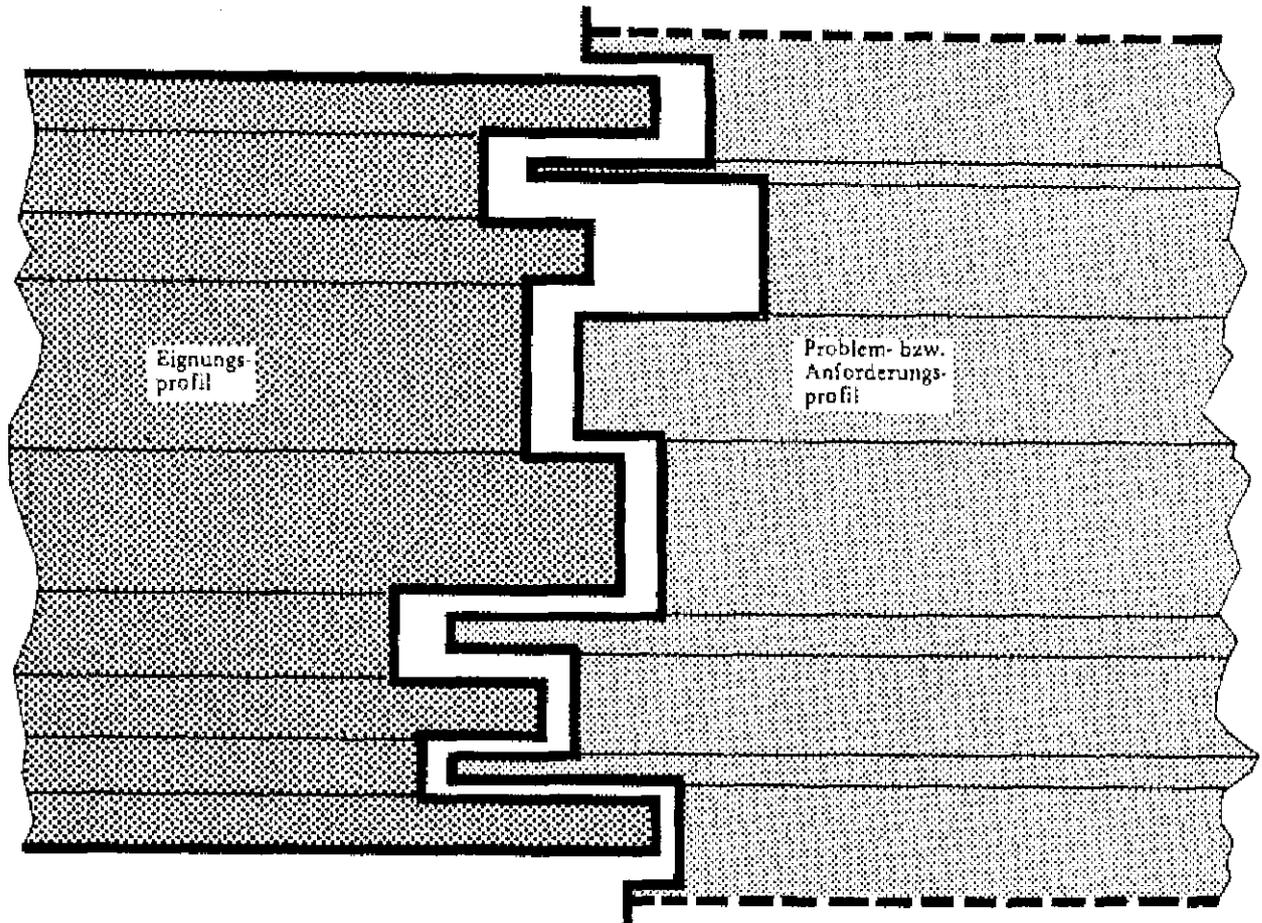


Fig. 14: Goal of the first seven "strategic phases" of the EKS. In the first three phases, an individual's or business's (company's) aptitude profile is determined; the subsequent ones determine where the demand that can best be tapped with this profile lies. The better the fit, the better the customer or employer can be satisfied – and the greater the chances of personal success. After W. Mewes 1972-1976, Lesson 10. (Eignungsprofil...aptitude profile, Problem bzw. Anforderungsprofil...problem or demand profile)

The final selection from the realistic short-list asks, "What target group offers me the greatest chances of success?" This question is particularly important for businesses that produce too many and too many different products. In one of our examples, Mr. Kürner was forced to decide what types of laundry he would leave to his competition and what type he would specialize in: the correct strategy is always to opt for the most appealing choice, one that also offers the greatest prospects for the future. This means being on the lookout for ever better solutions to the customers' problems.

Once the rough selection has yielded the most promising opportunities, Mewes advises his clients not to waste too much time planning and pondering, but to enter the fray with a modest real-life venture. In the case of a client who was a bank employee, this involved focusing on the problem of bank advertising and collecting the necessary information and

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Logically, these “small, low-risk steps” are the prelude for taking the next big step – committing yourself to a particular lock. The EKS recommendation at this stage is to specialize in a “segment of the target group” where you feel particularly secure. The final question is: “How big a piece of cake do I think I can handle?” The most effective approach is not to tackle some part of the problem that needs to be solved, but rather to tackle some part of the target group, a subgroup to whom the EKS candidate can then provide more individualized service.

Altogether, the seven phases of this strategic program reveal the large gap between the traditional method of choosing the right career and today’s ever more stringent requirements. Our upbringing, school systems, training programs, and professional consultancies are simply inadequate to meet these requirements. That approach continues to churn out carpenters, book-keepers, engineers, medical doctors, officers, or any number of other, historically developed, standard professions. In fairness, it does allow a variety of specializations, for example electrical engineers, ear, nose and throat doctors, or patent attorneys. Generally, relatively broad curricula are offered, but the ever increasing number of “non-traditional” professions fail to be adequately addressed. This reflects the standard, familiar approach: produce a range of goods according to the best knowledge of market demand and then sell it to the public using every trick in the trade. If, however, the lock determines the shape of the key, then Mewes’ strategy is much more efficient business-wise. In this case, demand not only controls the selection of goods being sold, but also exerts control over the development of those very goods.

Today, computers play a crucial role in the effort to optimally align the lock-and-key mechanism, both for employees and for businesses. Although the much vaunted horror vision of a computer world in the sense of Orwell’s machine dictatorship remains an issue, reality teaches us otherwise. Booking a flight is a classic example for the positive avenues that computers have opened up: no other approach would allow this process to be completed with comparable efficiency. The responsibility for helping each and everyone find the career most suited to their aptitudes, and determining where individuals can maximize their benefit, is probably the most important social function that the state can perform. This goes far beyond merely “creating jobs” to fully utilizing the many opportunities that human progress – and its new array of problems and desires – has created.

3rd Consequence:

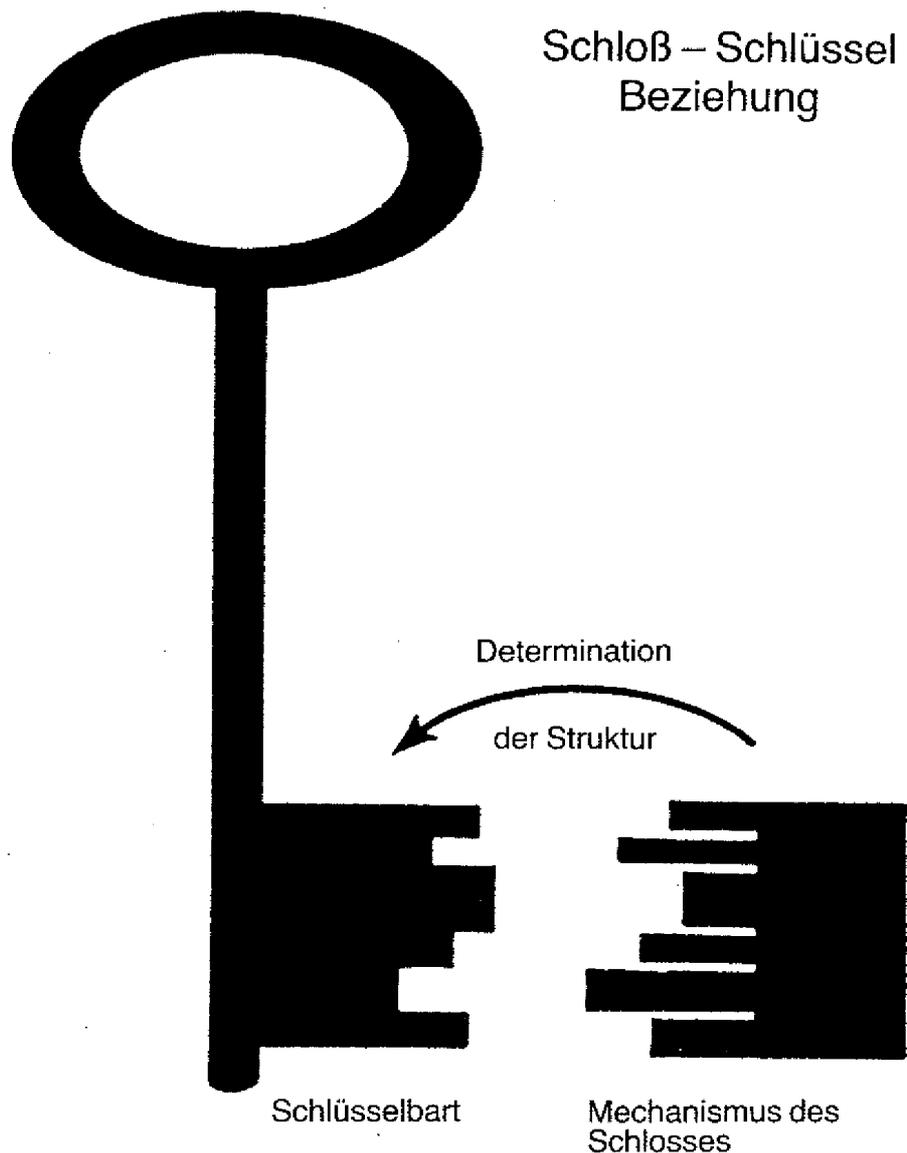
Be the best possible key for the right lock

Imagine a safe containing a stack of money, and you had a key to open that safe. Then it turns out that the key doesn't fit – it proves to be useless and you cannot gain access to the cash. Or, in a variation of that theme, perhaps the key fits, but when you swing the door open, the safe turns out to be empty. Both scenarios leave you without any money.

The first premise of this book outlined the vital role of energy gain for all organisms. Without energy there can be neither work nor movement and life cannot exist. Every organism must therefore be structured in a manner that allows it to gain energy.

Regardless of what that energy source looks like, it can be compared with the money safe. Every organism relies on being able to open such a safe. Having the correct key fulfills the first prerequisite for survival and further development. But it is by no means a free pass. If a beetle is squashed by a falling rock, then its potentially excellent energy-gaining capabilities are irrelevant. Nonetheless, every organism that can tap energy has fulfilled the basic requirement for what we know as "life".

More highly developed animals can learn, i.e. they can improve their behavior based on experience. Nonetheless, they must make do with the bodies they were born with. Some organs can be adapted to particular environmental conditions or recurring events, such as muscles that develop more strongly if they are frequently used. Even the ability to learn, however, does not enable an animal to produce additional organs. In the lock-and-key analogy, they are incapable of significantly modifying the key that their body represents. Unlocking or extracting energy means a chance to survive and reproduce. Failing to do so means elimination (Fig. 13).



*Fig. 13: **The lock-and-key determination.** Every organism, every worker, and every business (company) must exhibit a positive energy balance. They must extract more energy from environmental sources, either directly or via money, than their overall activity requires. Their relationship to that energy source corresponds to that of a key to a lock that needs opening (Energion theory). The bit of the key must mirror the lock mechanism. The lock contributes no energy at all to producing the key, but nonetheless still determines the configuration of that bit (see text for details).*

(Schloß-Schlüssel Beziehung...lock-and-key relationship, Determination der Struktur...determination of the structure, Schlüsselbart...bit of the key, Mechanismus ds Schlosses...lock mechanism)

Who, we may ask, is responsible for shaping the bit of the key, or – to use a business term – the performance profile? Perhaps the process can best be illustrated by examining how real keys are made. If I commission a locksmith to make a key for an existing lock, then who created the key bit?

On the one hand, the locksmith of course. He cut and polished the bit and physically produced the key. The key is definitely his piece of work.

On the other hand, the locksmith bears no responsibility for that bit's actual shape. After all, he merely fashioned it so that it precisely fit the mechanism. He or she therefore had no leeway in cutting the bit. Although the lock in no way actively participated in producing the key, *it nonetheless dictated its particular shape*.

Perhaps it helps to go underwater to spawn such ideas, but my diving activities as a researcher in coral reefs literally compelled me to formulate these thoughts. Each and every colorful and improbably shaped fish that I encountered was a key that was capable of unlocking some energy source. The manner in which each fish moved across the reef was proof of this capability: it sought its prey with great agility and fled with lightning speed when danger approached.

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Earning money required satisfying a need. The person with his or her needs or requirements therefore becomes the lock that must be opened. What configuration does the key bit have to have? Who determined the necessary "performance profile"? Clearly the customers. Their specifications determine whether they were willing to part with their money.

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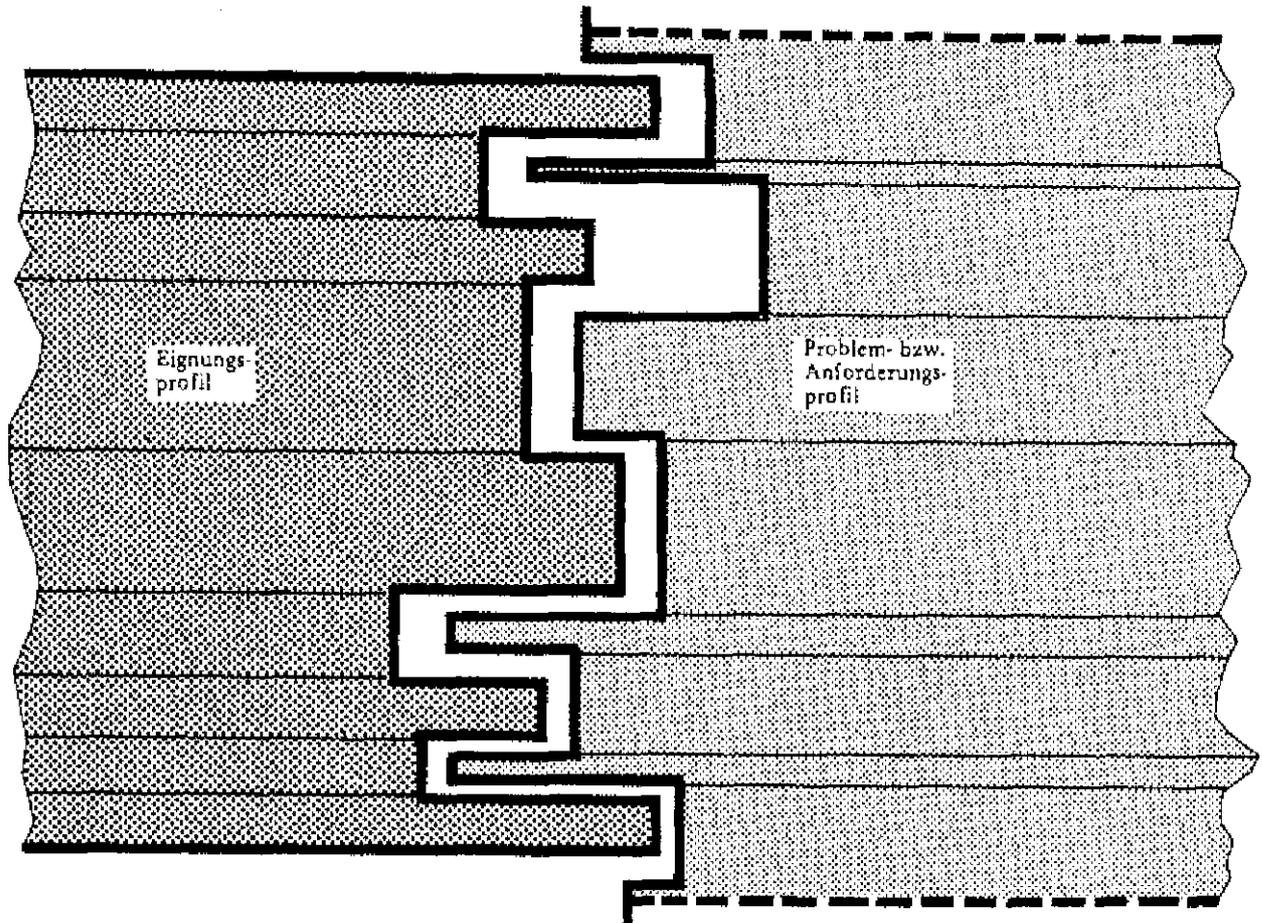


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5th Consequence:

Specialize and diversify your product – but correctly

One crucial decision must be made whenever your business focuses on a specific product or you need to choose a career. You either specialize in some well-defined line of business, such as a bakery, or, in extreme cases, in an (originally) single item such as Coca-Cola. Or you become involved in a variety of sectors and provide a broader palette of goods or services. Both strategies have clear advantages and disadvantages. The narrower the product range, the more effective you will be in that sector and the easier you can stay on top of the competition. The disadvantage is that you have bet all your money on one horse, which can mean greater risk. Should market conditions change and your special product become obsolete, then those with a more diversified product range are more likely to survive. Having several irons in the fire is one way to weather such a crisis. The generalist or universalist is more adaptable and can switch to other sources of income.

Although plants and animals use fundamentally different strategies, the above polarization is evident there as well. Evolution gave rise to numerous specialists, with parasites being one of the most extreme examples. They live inside the host body, and when that host dies, the parasite is doomed. Non-specialists, on the other hand, such as the “omnivores” that can feed on many different kinds of prey, are in a better position. If one source of food is lost, they can simply concentrate on another. The wild boar, whose diet ranges from small animals to roots to fruit, is a classical example.

Personally, I was directly confronted with this issue at two quite different localities. The first was on the remote Galapagos Islands in the Pacific, where we followed the footsteps of Charles Darwin on the barren lava islands and were the first to explore its underwater world. The second was during a management seminar in Freudenstadt, Germany, where I lectured on the Energon Theory and ethology: in the evening, at the bar, one of the participants came up to me and said: “Mr. Hass, I can leave this seminar earlier because my problem has already been solved.”

This seminar was one in a series tailored to advanced EKS-program participants. Most wanted to refresh their memories or had strayed from the EKS principles and were not quite sure when and why. I was responsible for day 1 of the 4-day seminar, and the EKS-specialist Heinz-Gernot Nieter, who saw a connection between EKS and Christian thought, used the second and third days to recapitulate the key guidelines of the program. Wolfgang Mewes himself used the fourth day to report on the latest developments and to discuss practical issues raised by the participants. I also had to leave on the second day, and the gentleman I had met at the bar offered to drive me to the airport in Stuttgart. The day before, he had been particularly interested to hear what I had to say about the Galapagos finches that Darwin had

made so famous, but I had no idea what part of my talk had sparked the decisive insight and I never got the opportunity to ask him.

Three years later I was invited to lecture at the Kärcher company in Winnenden near Stuttgart. Mr. Roland Kamm, the CEO, gave me a hearty welcome – he was the man at the bar! I asked him spontaneously what part of my talk had opened his eyes three years ago. His answer: “At that time our annual turnover had increased from ca. 20 million to 190 million DM (\$10 million to \$95 million) over five years, but then stagnated for two years. This was the reason I attended the Freudenstadt meeting. Since then, thanks to Darwin’s finches, our turnover has increased to 280 million DM and is still climbing.”

The details were fascinating. Kärcher was founded in 1935 by Alfred Kärcher, an engineer who manufactured electric heaters, plunger heating elements, and special heating devices for industry. After the war, high-pressure steam cleaners and high-speed steam generators became their key products. After Mr. Kärcher’s death in 1959, the company, which had grown to 250 employees, was capably led by Mrs. Kärcher. In 1968 she decided to hand over the reigns to a new CEO. This new managing director was very profit oriented and had little faith that the two above products could guarantee the company’s future. He told his engineers, one of whom was Mr. Kamm: “We need new ideas, new products, and anyone who comes up with a good idea receives a bonus!”. This triggered a phase of extreme diversification. In addition to its standard products, the company began to manufacture thermal oil heaters, polyester resin construction formworks, plastic gravestone moulds, the first artificial kidney, plastic riding elephants that were set up in front of department stores and that rocked back and forth when children inserted a few coins, a double-hulled boat ... “but the most glaring move was to take over a piano stool factory. Those were very heady days but otherwise a rather dark chapter in company’s history.”

In 1971, Mrs. Kärcher again took over as top manager and in 1974 passed this responsibility on to Mr. Kamm, who had discovered the EKS program through Gernot Nieter and who brought this period of diversification to a close. A central EKS maxim is: “Instead of doing many things with moderate success, it is better to produce one excellent product”. After careful consideration, Kamm decided to concentrate on steam-jet cleaners and gradually restructured the other production lines toward this goal. “Up until 1980 he boosted annual turnover from 24 to 209 million DM with this product and cornered 50% of the world market. “Then we entered a phase of stagnation. My problem at the time was to decide whether to go for the remaining world market share or to offer our loyal customers an increasingly differentiated range of items to fill their basic cleaning needs. Upon returning from the Freudenstadt meeting my mind had been made up: we would do both. The first step was to change the company’s image. The new motto became “Kärcher: cleaning is our business”.

What does this have to do with Darwin’s finches? Darwin, who was both a theologian and biologist, participated in the circumnavigation of the globe by the British survey ship “Beagle” from 1832 to 1837. At the Galapagos Islands he made the discoveries and gained the inspiration that convinced him that all organisms, including humans, stem from common ancestors. The comprehensive evidence he collected there enabled him to firmly establish the theory of evolution, which others before him had already espoused. What so astounded him on this remote volcanic island chain was the large number of different species that lived,

almost within sight of one another, on the individual islands. Each island had its own turtles and thrashers, its own finches, and its own plants. The bible interpretation at the time was that every plant and animal species was the result of a separate act of creation and therefore immutable. Darwin asked himself why precisely these small, barren islands should have enjoyed such a large portion of the creative force. Other species colonized the expanse of entire continents and, here, on these few lava heaps projecting from the sea, the Creator's fantasy had spawned an enormous range of ever new species with different features? Why did these species show clear affinities to the American continent, some 900 km away – and not with the Cap Verde islands that were also volcanic and offered virtually identical conditions for the fauna and flora?

This was particularly visible in the finches. They inhabited all of the islands in the chain. No less than 13 different species had developed, each of which had a differently shaped beak and also used it differently. One finch hammered trees like a woodpecker, another had a powerful beak capable of cracking open hard seeds. The beak of a third species resembled that of a parrot, the fourth that of a starling. The fifth species had a warbler's beak. There was only one logical explanation. At some point, mainland finches had ended up on the islands, perhaps carried off course by storm winds. Since they encountered no other bird competitors, they began to specialize in feeding types normally represented by other birds. This is much like someone who is confined to a narrow business sector in his or her home country but, in a new, undeveloped country, immediately recognizes and pursues dozens of different job opportunities simply because no competitors impose restraints. Darwin clearly recognized that not all the progeny of a particular species are alike. He also knew that certain characteristics were hereditary. On the Galapagos Islands, nature showed Darwin how, in the smallest of settings, the great variety of animals and plants had arisen. Hereditary changes that somehow improved life conditions were automatically passed on (Fig. 18). This led to ever new "species", and these were subsequently also replaced if something better came along. Darwin held it entirely possible that all living organisms on our planet – including humans – arose from the same early ancestors.

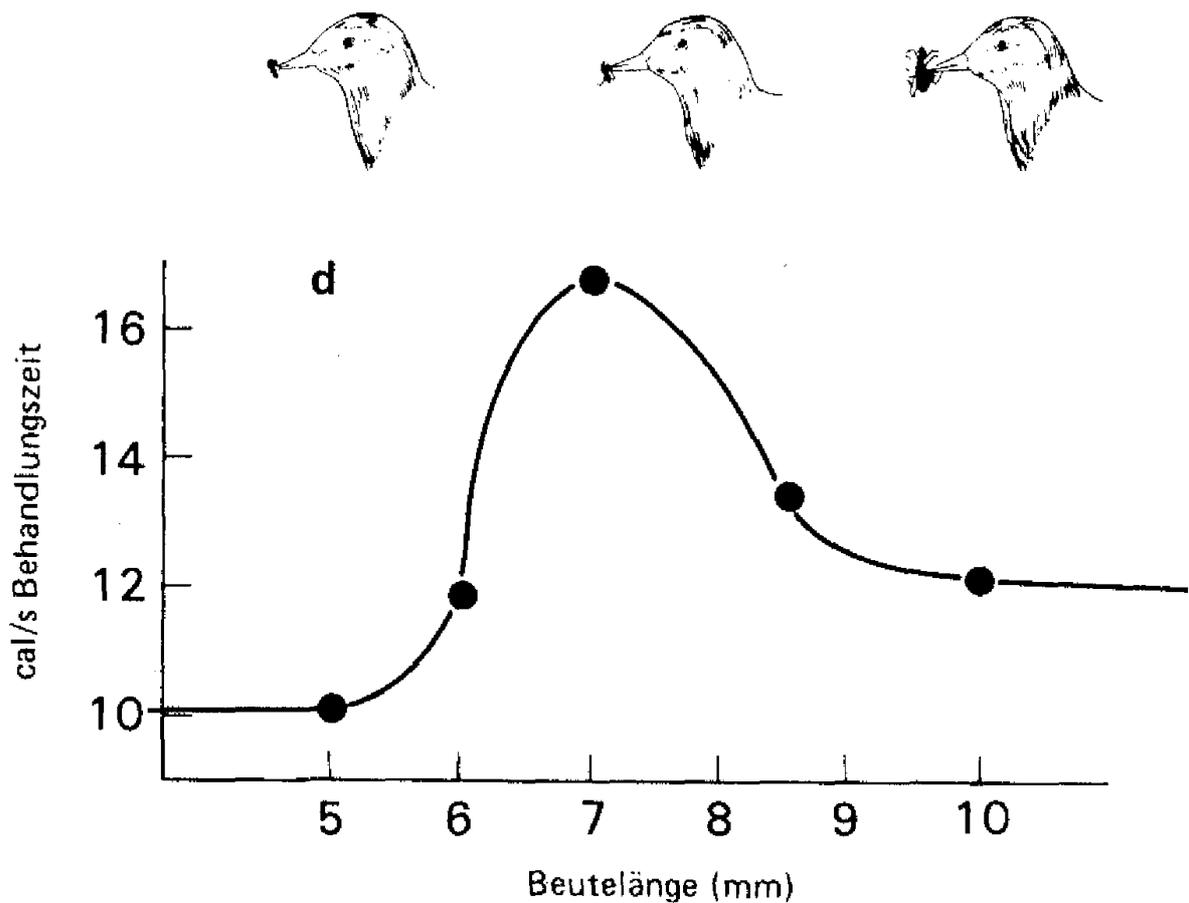


Fig. 18: **Tapping "niches"**. In birds, the shape and strength of the bill is decisive in determining which prey can be taken in certain areas. Bio-sociology has devoted considerable effort to determining the optimal prey for the various configurations using cost-benefit comparisons. The diagram shows the highest profitability in terms of prey size and the time required for capture for white wagtails searching for flies. These and others studies clearly show how animals rationalize their predatory activity and how new niches are tapped through structural changes. After J.R. Krebs and N.B. Davis 1978.
(Behandlungszeit in cal/s...handling time in cal/s, Beutelänge in mm...Prey length in mm)

My lecture had stressed Darwin's finches in order to demonstrate that available food resources and other living conditions ultimately decide what can survive and reproduce. From this perspective, nature itself breeds the organs and behavior control mechanisms that are most suited for the respective habitat. The situation is no different in the business world. Here, demand also decides which suppliers prevail, grow and multiply themselves.

Ronald Kamm viewed Kärchner's high-pressure steam cleaners as the "ancestral finch" that broke into and conquered a new market. If he had simply "cleaned out" the entire business and cornered the entire market, growth would have inevitably stagnated. "Finches with their slightly modified beaks", however, were able to pursue previously untapped opportunities. Cleaning problems need to be solved everywhere, and the correct strategy was to combine specially adapted machinery with long-term experience and know-how.

The next step was to go out into the field, for example to visit farms and determine precisely how barns and animals were being cleaned. The farmers were more than happy to provide the necessary feedback by pointing out their difficulties. Company representatives then analyzed the various problems involved in commercial cleaning (i.e. buildings), in cleaning textiles (rugs, upholstered furniture etc.), and examined cleaning problems that plagued trade and industry. Finally, Kamm's team studied the transport industry, from bicycles to tractors, from haulage businesses to motor caravans. Car dealers were approached about the number of cleaning jobs they had to do, and Kamm discovered that his company could handle 70% of these in the framework of a package deal. Kärcher then proceeded to develop 300 models of cleaning devices, each adapted to a specific need, much like the finches had done on the Galapagos Islands. "In those countries where we already had loyal long-term clients, where we already had one foot in the door with our high-pressure steam cleaners (the "ancestral finch"), we followed up with an increasingly differentiated palette of products for their basic cleaning needs." Germany was prime target area. "In Austria we achieved the greatest per capita turnover – here is where our fine-tuned "finch's beak" penetrated every nook and cranny." In the meantime, annual turnover has surpassed the \$300 million mark. Success at its best!

There is a lesson to be learned from diversification. In one unusual example, a course participant told Mews about a coffee roaster who had specialized in high-volume consumers such as company canteens. He used sales representatives to sell coffee in 5 kg packages – initially with great success. Then, the competition became stiffer, ultimately forcing the sales staff to accept orders for as little as one package. At a commission of \$1.80 per package, it became increasingly difficult to make a living, and the roaster found it increasingly difficult to hire employees.

Mewes: "At that point, the coffee roaster began to redefine himself more as the problem-solver for a particular target group than as a mere supplier. Instead of simply delivering coffee, but began to address the full range of difficulties that coffee drinkers encountered in companies and businesses. This proved to be an eye-opener. Corporate kitchens were having problems at every level: the encrusted hotplates, the dirty cups, the dented pots, the coffee stains, the recriminations, the wasted time, and, more importantly, the murky brews that passed as good coffee."

In order to help alleviate these problems, the man searched for a heavy-duty coffee machine that could handle the job. He then no longer only sold the coffee, but also provided the optimal machines for this group of customers. Because even the best of machines eventually become dirty and furred, he introduced a regular service and maintenance plan. Through his many contacts, he recognized that hiring personnel to make and serve the coffee was becoming increasingly expensive. At the same time, unattended coffee machines were wasteful and inefficient. "He found coin-operated coffee machines to be the answer to these problems, a system which raised the issue of financing...".

This development culminated in a package deal that included not only coffee machines, coin-operated dispensers, a service package, coffee, tea, mineral water, carbonated beverages and other drinks, but also provided disposable dishware, ready-made cakes and pies, wastebaskets, waste disposal systems, etc. – in each case tailored to the specific business

partner. "Any company that wants to offer its employees refreshments need simply provide a free corner and pay the monthly fee: it can say goodbye to all other problems related with coffee drinking in the corporate environment. And the solution is better and cheaper than any in-house solution." This strategy allowed the former coffee roaster to avoid the stress in the increasingly competitive sector, and earnings rose to an average of \$900 per customer and year. The average customer remained his client for 4.5 years. For them, the coffee and other refreshments were fresher, the service more reliable, customer satisfaction unparalleled, and employee morale improved. "His sales staff received \$200 as a one-time bonus for each new client. The resulting drain on profits fell by half and the representatives still earned more – on average \$2500 per month. The clients felt relieved to have this problem off their backs, but in reality they were more tightly bound to the "coffee man" than ever because the underlying problem remained and no one else was available to handle it better."

Unfortunately, you can't learn this type of business strategy in any school. Are the above cases simply examples of extreme diversification? From our perspective, demand is being met by a package deal that solves several interrelated facets: the solution becomes the actual product. This transition from selling goods and services to becoming a problem-solver requires considerable restructuring. At one time, home gardeners bought their seeds from a seed shop, their garden chairs from a furniture store, and the garden gnome at a hardware store. Today, stores operating under the motto "Everything for your garden" offer these and virtually all other garden-related items under one roof. The customers save time and can make better decisions. Rather than selling wares based on their materials, the palette becomes customer-oriented and provides a comprehensive solution.

Nixdorf and others, for example, have gone far beyond merely selling hardware and software. Today they tailor the optimum software for the customer's needs, train the customer in the operating procedures, work out financing details, and deliver the optimal furniture configurations for the new systems. In the banking business, computers have not only fundamentally changed underlying processes and functions, but have actually begun to architecturally design new generations of banks. This does not mean that computer companies need to diversify in odd directions by opening up cabinetmaker's shops and architecture bureaus. Rather, the strategy is to mediate useful additional services that reduce internal friction and enable the delivered systems to operate at full potential. Shoppers who go to a Swiss "Migros" supermarket appear to be confronted with an extreme form of diversification, when it in fact represents a highly perfected specialization on customer demand. Many small businesses were initially affected, but have since entered into a beneficial symbiosis with these retail giants. How? Either because such supermarkets need reliable suppliers, or because the small businesses then specialize in customers who demand high-quality products or refuse to be seen in supermarkets. In the USA, buying up shaky companies and putting them back on their feet by improving management and restructuring their business plans has become a very successful venture. These leaner companies are then sold for a profit. Superficially, most of them appear to be extremely different from one another and the firm doing the restructuring may appear to be highly overextended. In reality they are extremely specialized, i.e. on restructuring the dysfunctional core element of other companies. The firm applies the same know-how and guidelines to straighten these disfunctions out.

Plant and animal evolution is based on similar interrelationships and principles. For example, the “digestive helpers” that help termites and many other animals (including cattle) to break down the food they eat. The size relationships in these symbioses reflect those of the small supplier and supermarket cited above. In both cases a smaller organism, whether it resides in the body of another or fulfils its function independently, becomes an essential element in the larger organism’s body. It helps that organism tap new sources of energy, which can be interpreted as diversification. In multicellular organisms, the crucial organs such as plastids (which help plants photosynthesize) or mitochondria (which enable animals to exploit the energy they consume) are now thought to have originated from parasites or symbionts that long ago migrated into the cells and ultimately became organs. The evolutionary history of these organelles was reconstructed based on the fact that their reproductive mechanisms are independent of cell division. In this sense, these highly specialized units are much like the management installed by an outside company, providing the impetus for diversification in many directions. From another perspective, they resemble the furniture that Nixdorf might deliver to a bank – the result of a diversification that ultimately promotes specialization.

The business strategy applied by Mr. Kamm is equally applicable to any sector of business. The first step is to draw on your practical experience, to find your true calling. Jumping headlong into some new sector is a recipe for disaster. This approach needs to be incorporated into today’s upbringing and education systems. Get the big picture, arrive at a careful decision, then specialize. The basic steps outlined in the chapter “3rd Consequence” can help define the goals. Being competitive means gaining broad experience and abilities in some promising sector – usually a full-time job. Only after successful breaking into the market and establishing an image – much like Kärcher did with its high-pressure steam cleaners – can the third step be taken, namely expanding the product range. Again, as correctly pointed out by Mewes, don’t overstep the framework conditions in your sector. Clearly, not every new venture will go smoothly. Radical adjustments, combined with renewed specialization and subsequent diversification, are often advisable. Finding a balance between your career and private life is also crucial, as we will discuss later.

All the above is equally valid for employees or companies. In the past, company size was a decisive factor: large companies excelled in mass production and research, the smaller ones were more flexible and adapted better to individual customers. This left room for symbioses in various subsectors. For example, smaller businesses could cooperate with automobile giants by customizing cars to meet the needs of individual professions (physicians, film producers, carpenters, etc). Both partners benefited from this arrangement. Automobile factories cannot deal with individual customers, and the customizer effectively broadens that company’s product line. By modifying the cars for a fair price, the neighborhood customizing shop can successfully grab its share of the market. This led to many small “one-man” businesses with only minimal means of production: they swiftly adapted to customer demand by putting together the appropriate partners and suppliers. Gerd Häuser, whose lambskin jacket business was discussed earlier, is a good example of such a highly adaptive approach. Today, computer are steadily eroding the respective advantages and disadvantages of small versus large businesses.

CAD and CAM (Computer Aided Design and Computer Aided Manufacturing) have introduced “flexible automation” even in large companies, a strategy enabling them to enter previously

inaccessible market niches. Such computer-supported systems are now standard in mechanical engineering firms and the metalware industry, in the electrical and in the wood-processing industry, boosting international competitiveness. Despite these developments, the OBS consequence remains valid: both specialization and diversification are crucial, if the timing is right.

How does the psychosplit influence this polarization?

A look at the menu of any restaurant reveals that our ancestors had both a plant and animal diet. The biologist would say we are “omnivores” rather than specialists like mosquitoes or parasites. This explains why so many different foods taste good to us and why our “gastronomic culture” devotes enormous energies to tickling our palette with ever more refined creations and seasonings. The fact that we enjoy eating in good company is a special feature that underlines our social cohesion – and also shows that diversification is important even in our small daily pleasures. We associate eating with conviviality, stimulating discussions, a flirt, or good background music; in oriental feasts, this might be topped off with dance performances and other entertainment.

The psychosplit made us into semi-predators by automatically triggered our innate predatory instincts whenever we encounter someone or something that indirectly helps feed us – a customer, an employer, or simply money. This spark has also jumped to a behavior we employ to heighten our pleasure, and that prompts us to spread ourselves thin businesswise. I am referring to our well-developed sense of curiosity. It motivated many of the “additional organs” we produced and tested. It also explains our keen interest in the latest news (newspapers, radio, TV, etc.), in new experiences (tourism, polygamy), and in acquiring new physical aptitudes (sports and hobbies).

From the Optimal Business Strategy (OBS) perspective, the EKS is entirely correct to stress the importance of specialization on all fronts. And the psychosplit makes it all the more understandable. Human behavior shows a genetically anchored tendency to stray from chosen tasks, to be distracted by innate impulses and environmental inputs. Being “obsessed” with a particular idea, particularly when that activity yields no clear benefits, appears to be unique to the human stage of evolution and is bolstered by our “additional organs”. We certainly cannot observe this phenomenon in monkey, apes or other “higher” mammal groups. This tendency, much like other instincts, is part of our genetic makeup and has become hypertrophied, i.e. highly exaggerated, in certain individuals. The result? Some people pursue a particular problem with a one-track mind, and the rest of the world is often still one step behind. Long after that person has died, the idea may be revived and ultimately become a source of human progress.

Two additional facts deserve mention before we leave Darwin’ finches and Kärcher’s company.

In a curious twist of fate, the high-pressure steam cleaner with which Kärcher conquered the US market had actually been invented as a steam-jet cleaner in 1925 in the USA. Mr. Kamm explained that, “after the war, the US occupying forces in the Stuttgart area were equipped with this machinery, which was unknown in Europe at the time. Some of the units had to be

repaired and ended up in Kärcher's shop. As an engineer, he quickly realized that he could build a much better product. In 1950 the first machine rolled off the production line. The system was successively perfected with German thoroughness and industriousness, and increased sales volumes allowed prices to drop from year to year. With this weapon, with this finch, we returned to the US. In the original home turf of high-pressure steam cleaners, technological progress had stagnated: the US model continued to operate at one-third the power and twice the price of the European competition. It was no easy task to break into the market because we were virtual unknowns and because high-pressure steam cleaners had a severe image problem. Our guarantee and maintenance package along with other sales strategies quickly won over potential customers. We very rapidly advanced to Nr. 1 status in every market we approached."

As mentioned earlier, the evolutionary path of plants and animals is also lined with such detours. The swimbladder of modern fishes developed from the early lungs of those fishes that once conquered land. The auditory ossicles of our inner ear (hammer, incus, stapes) – so important for our musical listening pleasure – represent the gill arches of ancestral fishes, which had become superfluous and highly reduced in land animals⁴³.

As far as the Galapagos finches are concerned, Darwin missed a peculiar feature in the woodpecker finch *Cactospiza pallida* – a feature that was first studied in detail by Eibl-Eibesfeldt and Kurt Sielmann in the aftermath of our underwater expeditions to these islands. In his book "Principles of comparative ethology", Eibl-Eibesfeldt writes: "The bird uses its powerful beak to tear the bark from twigs, thereby exposing the tunnels of insect larvae. Unfortunately, this species lacks the long tongue with which European woodpeckers extract the larvae. It solves the problem by using a tool. Once the tunnels are exposed, it picks up a cactus needle, holds it lengthwise in its beak, and pokes the insect out. It can also break small twiglets into the correct shape, essentially fashioning its own tool"⁴⁴.

Can the term "additional organ" be applied to the cactus needle or to the modified twiglet when the woodpecker finch uses it to obtain prey? Isn't the spider's net, which its body secretes but which is not a permanent fixture, a crucial, artificially fashioned predatory organ? Does the dam that beavers construct to retain water – or the termite mound as a protective organ for the colony – not belong to these animals merely because they are not permanently attached and do not consist of cells? And what about a bird's nest – a fundamental organ for brooding eggs?

Animals produce such additional organs based on hereditary behavior control mechanisms, whereas humans use their greater understanding of cause-and-effect to deliberately produce such "extensions of the body". Abstractly seen, every type of career and every business is actually a "spider's web", designed to obtain food, i.e. to gain the energy we all fundamentally need. Spiders obtain their food by predatory actions; in business, humans do the same via transactions. The degree to which we should specialize or diversify depends on the respective spatio-temporal setting. The psychosplit tends to motivate us to pursue a variety of activities in order to satisfy our innate security needs. "More pillars hold up the house better". The most opportune strategy is to breach the competitors' defenses at some clearly defined point and to build customer trust and loyalty there. This can then serve as the fundament to create a more diversified pallet of products that better address the customers'

problems.

6th Consequence:

Your success is determined by the target group whose problems you solve

What is the next step after embracing the seven strategic steps that Mewes developed to lead the “key” to the right “lock”? Animals dispatch and consume their prey in order to extract the energy and matter they need. Whenever you or your company encounter a customer, you will hopefully proceed more cautiously. That customer, as your source of gain, must be engaged, his or her attention drawn to the goods or services being offered, and the virtues and great value of those products be convincingly extolled.

This is the essential point. If products of comparable quality are already on sale elsewhere, then your prospects of successfully earning money are minimal. We have already discussed the optimal strategy for establishing trust. This means focusing and eliminating the selected target group’s weak spot, preferably one that has not yet been identified or covered by the competition. The Mewes strategy boils down to this: “Make an offer that the customer simply can’t refuse.” And a refusal is unlikely because either your package is perfectly tailored to customer demand, or the customers simply cannot afford to let their competition enjoy the same advantage. This type of offer is the spark that establishes mutual trust, forges the partnership and initiates a process of “self-organization”.

The latter term could use some explaining. The common understanding of the word “organization” implies a conscious act of volition that establishes a suitable spatio-temporal framework for a particular purpose. This might be a machine that does the work we need or, in military conflicts, a combination of forces and actions that overpower the enemy. In business, this might be a combination of production means and production processes that leads to the desired goal. Cultural achievements, for example a festival or a work of art, also require the appropriate “organization”. It is difficult to imagine any organization without a conscious promoter: useful and efficient results simply cannot be created automatically. The term “self-organization” is reminiscent of an arm without a brain.

Nonetheless, it is entirely possible for highly useful structures or processes to arise unintentionally and unpremeditated. According to our current state of knowledge, natural evolution proceeded almost entirely along this path, even if this is difficult for us to imagine. This can be illustrated by two examples.

In a curious twist of the predator- prey relationship, each of the “partners” unintentionally influences the development of the other. When mutation alters the genetic makeup and improves the predator’s organs or behavior, then this promotes its success and the improvement can be passed on to the next generation. Should mutations improve the prey’s

defense capabilities, then that prey will enjoy reproductive advantages and its offspring will be better adapted. Thus, each partner influences the evolution of the other – *against its very own best interests*. A faster gazelle is certainly not advantageous to the lion, but the lion itself ultimately promotes faster-running prey by eating those who are slower and preventing them from reproducing. The same holds true for the gazelle: its interests are by no means served by more efficient lions, but the gazelle *itself* ultimately promotes such predators. The gazelle can escape the less adept lion, leaving the more skillful hunters to reproduce. All these improvements are truly unintentional, unpremeditated, and automatic – self-organization at its best!

The second example involves climate change: even it can promote structures that boost selective (competitive) value. Let's assume that the hue and color patterns of rabbits inhabiting a particular region are so well adapted to the ground that birds of prey have difficulty detecting them. This region becomes colder during an Ice Age and the ground becomes covered by snow for months longer than before. The rabbits are now highly visible against the white snow and are therefore easily recognizable and frequently preyed upon by the birds. Their numbers decrease correspondingly. Let's also assume that random, i.e. unintentional and unpremeditated changes in the rabbit's genetic makeup bring forth white rabbits. They are barely visible on the snow. While those individuals with the original color continue to be decimated, the white members of the population can forage undisturbed. They successfully reproduce and, after a few hundred years, virtually only white rabbits remain. Is this white color the result of purposefully planned wisdom? By no means. The snow had absolutely no direct influence on this development: not one quantum of the snow's energy went into rabbit evolution. The birds of prey also had no interest whatsoever in the development of less detectable rabbits. Yet, both are ultimately responsible for the white coloration that proved quite useful to the rabbit. This important feature was therefore also produced via self-organization⁴⁵.

Profit for employees and businesses involves demand, not prey. This demand governs the development of the supplier just like the prey does that of the predator. The maxim in both cases: "adapt yourself as well as possible to the energy source". And this brings us full circle to our topic. Once the supplier has found the optimal customer, then this target group begins to control his or her development, whether it be consciously or through its spontaneous behavior. Promoting the target group's interests or eliminating weak spots by selling the appropriate products will automatically benefit the supplier. Egoism and self-interest are the driving forces here not charm or other consideration. No one is more welcome than someone who has earned a reputation as a problem-solver and who can really help.

This, as I have pointed out in my Energon Theory, is the key point in the Optimal Bartering or Optimal Business Strategy (OBS)(compare Fig. 13). The prerequisite for optimal transactions, i.e. earning money by selling products or services that others require and then purchasing necessary goods you need with that money, is to find a customer or a demand that you can optimally satisfy – even if this is initially in a very limited sector. We need to overcome the predatory instincts triggered by the psychosplit. Identify with the target group's problems instead of dwelling on your own immediate advantage. Gain trust by identifying and eliminating weak spots that hinder smooth operation (Fig. 15). This creates partnerships and positive feedback effects. The word about good performance spreads quickly. The target

group will expand accordingly, and its other partners will make every effort to retain or even improve a good deal. The target group will, in its own self interest, voluntarily provide all the information (and sometimes even funding) that can help you to better fulfill its needs. In other words, the target group helps put you on the road to success.

Once mutual trust is established, the customer-oriented range of goods or services can be expanded, the business enlarged and the company's future be put on a solid footing. In all cases the motto is: "Don't gear production to maximize profits (as our predatory instincts would have us do), but focus on the target group's advantages and adjust production to the customers' ever-changing needs." This leads to higher and more stable profits than potential windfalls from predatory strategies, especially in branches that rely on long-term clientele.

Mewes very successfully applied this concept, which is anchored in evolutionary principles, in practice. He used business terms to describe demands that are not being met ("gaps in the market"); he referred to the spot at which this bottleneck can best be eliminated as the "cybernetically most effective point". Sometimes a supplier cannot deliver the "minimum factor" necessary to eliminate the bottleneck, but knows others who can (the "minimum group"), keeping the supplier at the pivotal point. When one bottleneck is eliminated, the efforts can be turned to the next one⁴⁶.

Mewes writes: "Previously, people, businesses and governments based their strategies on experience, role models or certain schools of thought, i.e. on what was (or at least was considered to be) correct in the past. The EKS strategy, however, focuses on bottlenecks, specifically on the cybernetically most effective point to deal with the problem at hand." "This bottleneck is analogous to a leak in a dam or to drilling a hole: once a small opening is established, it tends to propagate itself almost automatically. Such breakthroughs, however, require focused efforts, i.e. on the weakest point or 'tightest bottleneck'."

The underlying principle is universal. Animals can learn to more successfully strike their prey, and suppliers who identify the correct point and eliminate a "burning" problem will reap greater rewards. The dynamics of the control mechanisms are plain to see. If I somehow manage to sell an item to someone who is not satisfied with that product, or if I do a sloppy job, then I will never be recommended to others. The opposite is more likely the case. The customer's understandable reaction is "never to have anything to do with that person again." If, on the other hand, I can meet or even exceed expectations, then it will be in that customer's best interests to support me and, to the extent possible, help me reduce prices even further or better adapt my services. We are not talking about spontaneous friendship or sympathy, much less about "love", although the positive, benevolent attitude involved can solidify over the course of the business relationship and ultimately prove to be stronger and more durable than many a friendship or romantic attachment.

The lock-and-key relationship determines what is – and what is not – ultimately successful in both the natural environment and the business world. The fittest survive, whether they be a pine tree, a gazelle, a shoemaker, or the Volkswagen factory. Our decisive advantage over all other organisms is that we can change our capabilities at will. This was treated in the framework of the Energon Theory, but one aspect deserves mention here: "Up to the human level, evolution always had to overcome the strict hurdle that every link in the evolutionary

chain had to be fully functional. If fitness was in any way compromised, that link would very quickly be eliminated and that line of development stopped in its tracks. Intermediate steps, whether they be entire organisms or organismic features, only succeeded if they did not tilt the balance negatively. Our new organs or tools bypass such intermediates. We can simply skip them because our fantasy can design and redesign, and we can then market the functional, 'well-thought-out' final products."

The manufacturer, however, cannot dictate market success. Advertising and other measures can exert a certain influence, but only temporarily in a free market economy. Demand, i.e. the energy source that is tapped, makes the ultimate decision. Positive and negative "environmental" influences (for example government edicts) can also exert control, while "internal framework conditions" can impact overall efficiency (compare Fig. 16).

Mewes used a very convincing illustration to demonstrate the stimulatory effect of an optimally serviced target group. This spiral diagram was variously adapted in the various phases of his program (Fig. 19). He very logically argues that it all comes down to the right strategy! The dynamics of self-organization spring into life the moment you help your target group achieve above-average success, even if this is in a very narrow sector. "Catering to the greater needs of the target group" by eliminating some bottleneck (i.e. at the cybernetically most effective point), helps you and boosts demand for your services. This allows higher production volumes, reducing costs. Once you lower retail prices accordingly, you become even more attractive. The cycle of greater productivity and cost reductions has been kick-started. Profits rise, your liquidity and freedom of action increase. All the prerequisites for rapid, accelerated growth are met.

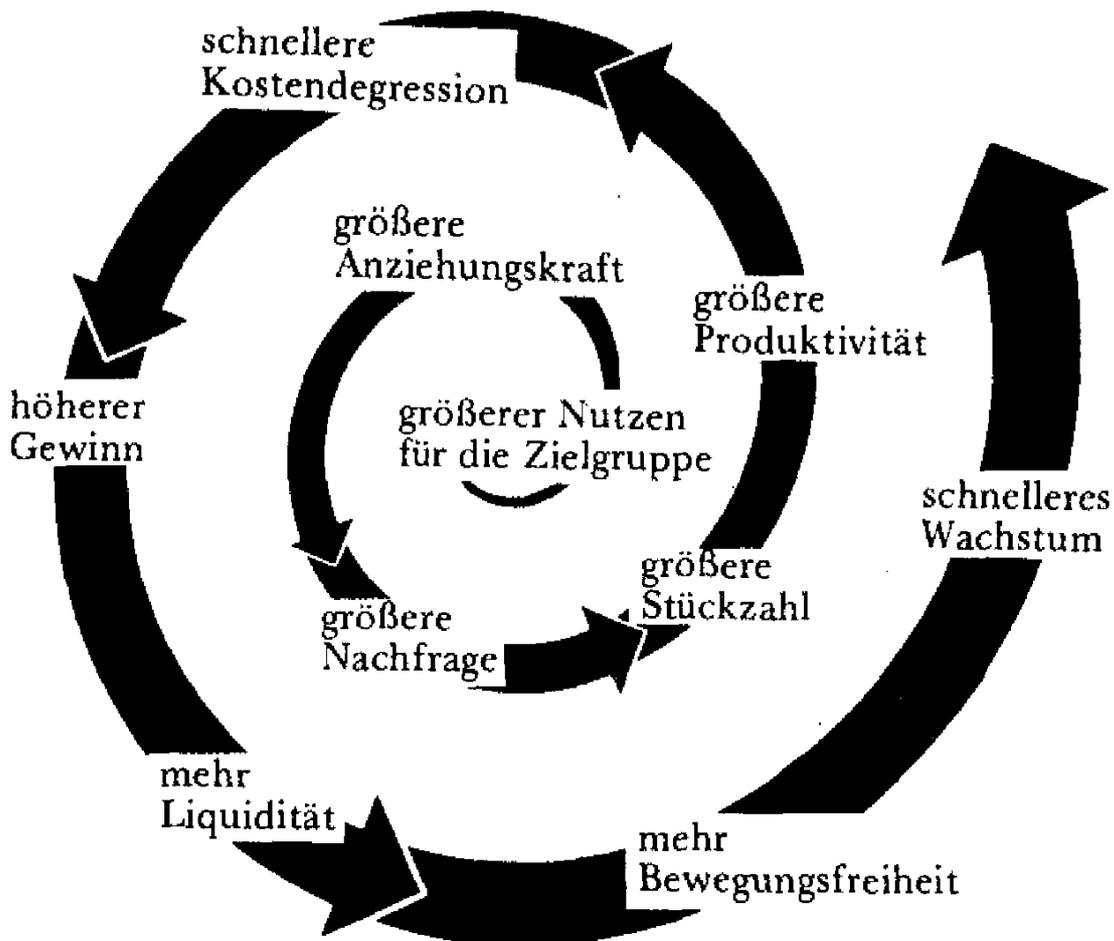


Fig. 19. **The EKS success spiral.** Offering your target group a distinct advantage over the competition boosts attractiveness and creates greater demand. More units and increased productivity lead to corresponding cost degression, higher profits, more liquidity and freedom of movement, and to more rapid growth. Passing these successes on to the target group keeps the positive development in motion. See text. After W. Mewes 1972-1976, Lesson 11. (größerer Nutzen für die Zielgruppe...greater benefits for target group, größere Anziehungskraft...greater attractiveness, größere Nachfrage...greater demand, größere Stückzahl...greater number of units, größere Produktivität...increased productivity, schnellere Kostendegression...more rapid cost degression, höherer Gewinn...higher profits, mehr Liquidität...more liquidity, mehr Bewegungsfreiheit... more freedom of movement)

EKS students translate this very logical cause-and-effect sequence into an important impulse that helps them to accept and assimilate the new thought process, the new approach (target-group versus personal interests). On the other hand, “self-organization” should never be confused with a “takes-care-of-itself organization” in which we can twiddle our thumbs and let things take their course. New windows of opportunity require unbroken concentration, both on the target group’s behavior and on the changing market environment. Note that the above-mentioned spiral also harbors pitfalls: beyond positive effects, growing success also has negative effects. These need to be recognized and factored into the overall picture.

The increased profits and power delivered by optimal strategies will attract competitors. Moreover, the advantages reaped by discovering a new market niche can be short-lived. Semi-predators are quick to hatch plots and oil the machinery to partake in this success or to shunt profits their way. More money in the bank tempts us to pursue personal pleasures that divert our focus. Family members and employees make ever greater demands. Increased stature goes hand in hand with envy and resentment. The highly developed human instinct to seek new pursuits distracts us from the narrow strategies involving weak links, cybernetically most effective points, minimum factors and minimum groups, and potentially useful innovations in our sector. We are drawn to the bright lights elsewhere, frittering away our energies. Our innate urge to impress others is also a distracter with negative repercussions. Another factor is the drain of co-workers who open up their own businesses: they are perfectly equipped to penetrate new market niches and siphon off business. Finally, stressed business magnates are known to vent their moods on underlings. When success goes to our heads, once suppressed desires often begin to surface. In 1987, under the title "When power distorts the manager's mind", the journal "International Management" presented a telling analysis about how we become transformed under such conditions, i.e. how our situation changes when we become successful.

Today's often quoted catchphrase "integrative concepts" helps make sure that we do not ignore previously overlooked side effects. In our case, this means keeping an eye on the "opposite side of the coin". Focusing only on the positive benefits is bound to quickly undermine the synergistic, buoying effect exerted by the target group⁴⁷.

This is perhaps the opportune moment to address the issue of fundamental life philosophies. Are you a member of the "work to live" or of the "live to work" faction? The US economist Galbraith distinguished four motives that prompt human beings to subordinate their personal desires and to devote themselves to disciplined work in the community⁴⁸. The first was fear of punishment, the second the pursuit of money. He termed the third "identification": individuals can gain satisfaction – above and beyond monetary gain – by immersing themselves in a particular task, by becoming "one" with an organization or some predefined goal. The fourth motive was termed "adaptation". Here – and this pertains particularly to those striving for managerial positions – the individual serves the organization not because he or she puts company goals above personal goals, but because they seek to more closely harmonize the company's goals with personal ones. In effect, these persons hope to draw the business, the organization or the state into their own sphere of influence, transforming it into an organ of their personal powerbase.

Galbraith's first two motives coincide with the "work to live" philosophy. When such persons earn more than needed for bare necessities, they strive to improve life for themselves and their families, to enjoy the pleasures and beauty that life has to offer, to delight in culture, art, sports, travel and everything else that technological and economic progress has to offer. Galbraith's motives three and four (identification and adaptation) largely correspond with the philosophy of the second, smaller group, which is less oriented toward social pleasures than toward actively confronting the problems of this world, whatever they perceive them to be. This group "lives in order to achieve" and follows inner rather than external compulsions. They derive their greatest sense of reward and satisfaction from success in their field, whether it be

science, art, business, or politics. Risk is a challenge they rise to. It motivates them to prevail, to overcome resistance, and to achieve the aims they hold high, regardless of cost.

Hans Bürkle, one of Mewes' most experienced partners, was specialized in counseling employees on how to best climb the career ladder, either in their present company or by moving from one company to the next. The foreword of his very instructive book "Active career strategies" states, "If you find your job to be a tiresome way to earn a living and therefore seek an easier, more stress-free job, then this book is not for you – it will only disturb your peace and quiet. If, on the other hand, you subscribe to the notion that yesterday's achievements no longer suffice, and if you want to have fun with your job, enjoy pursuing success, have the courage to take risks, and are willing to leave the beaten path, then this book was written for you. Because you belong to that select group of people who understand the dynamics of our economic system and who will control its future course."

As everywhere in the evolutionary process, no sharp borders delimit the above two groups. Many Group A persons live modest lives (choosing a career that enables them to live their envisioned lifestyle) when, suddenly, they are confronted with a task, a responsibility or an idea that causes them to jump their tracks and become classical Group B persons. Their friends hardly recognize them anymore – they have become transformed. This might well apply to Gauguin, who left his wife and steady job to become a painter in Tahiti and ultimately perished in the Marquesas Islands: only long after his death was he accepted for what then so shocked his family and friends. At the same time, others leave home to take the world by storm and end up as dutiful rowhouse husbands or homemakers. In Europe at least, statistical analyses show that nearly 30% of all 18-year-old males are "career-oriented", whereby this percentage drops to 10% and less at the age of 30 (note: these values differ widely depending on the fundamental predispositions in various peoples and countries, on the climate, ideologies and other factors). This proportion meshes quite well with the evolutionary perspective: there is only a limited need for people who strive to fill high-level positions. The multitudes that actually effect the overall course of human development are, contrary to Nietzsche's bold propositions, equally important and valuable. We have become an immense, complexly interwoven plurality that has transcended the original communities from which we stem.

Let us return to the essence of the 6th Consequence – the controlling influence that target groups exert on those devoted to optimally serving them.

Pursuing success as an individual or as a business requires determining the means and abilities at your disposal. The next step is to identify what demand you can most efficiently satisfy with your profile. In energetic terms, the key must find the best-fitting lock. The psychospirit is disruptive here because it tends to highlight sectors where current success stories are being written and where money seems to flow freely. Many who follow this path, and choose their university studies or steer their companies in that direction, find themselves out of business or cashing unemployment checks 3-8 years later. The pitfall is that such success stories magically attract hoards of other people as well.

Even today, many standard careers or business fields still have a relatively steady need for new recruits evolve only very gradually. On the other hand, an increasing number of novel job opportunities find no graduates that can fit the bill, and unfilled positions eagerly await

suitable candidates. Narrow specialization is in ever greater demand. From the economic standpoint, each one of us must be prepared to seek and identify such niches, motivated by personal initiative.

Successfully identify a need and muster the courage to occupy some initially barren niche: with a little luck, that previously unfulfilled demand can lift you to riches and success. Surfing this wave is no easy task and there is no autopilot function. Using the surfer analogy, keep one eye on the turbulences within the target group in order to allow your board to react to the wave's direction. With a career-oriented attitude, you can ride the wave all the way to the highest managerial levels. Of course, persistence and character is also necessary and certain sacrifices will have to be made. Only a chosen few are up to the task, and many semi-predators are among them. Increasing market transparency, however, tends to make their lives more difficult and promotes optimal business behavior.

According to the OBS program, serving others is the appropriate strategy even for those who seek a leisurely, low-key life devoted to self-development and personal improvement rather than acquiring power and status. This approach can yield notable results – with minimum effort – even in the most trivial jobs. And it holds true for the strategies we pursue in our private lives and for the strategies pursued by governments.

From the dawn of evolution, evolutionary control mechanisms put a limit on the number of organisms that survived. We are now in a position to use our human intellect to promote and alter these controls. What once required long successions of chance events can now be implemented at a very fast clip. Does this mean we can direct the course of events to our heart's content? No. We can only temporarily influence or control what goods and services the market accepts. In short: "Man proposes, but success disposes."

7th Consequence:

Earnings and profit are by no means identical

We have increasingly become accustomed to judging success by the amount of money that a person earns. This is not entirely unreasonable, considering what money – as a magic wand – allows us to achieve. Anyone with enough money can hire a specialist to help further some pet interest. This means a wealthy person can multiply his or her hands a thousand fold, can boost the capacity of his or her brain by the brainpower of thousands of experts in any particular field. It also means being able to pick out and enjoy the most appealing physical and intellectual pleasures, amusements and entertainments that the world has to offer. Faster than you can open your pocketbook, highly committed professionals will fulfill your every wish.

Of course, money does have its limits. Perpetual youth or health cannot be bought. No amount of money in the bank will guarantee that true love will be reciprocated. For someone lost in the desert without water, no fancy equipment and no amount of money can bring

salvation: mustering your last energies and pulling a pen from your pocket to write a check for a billion dollars won't put a drop of water in your mouth.

Nonetheless, these and other limits detract little from the magnetic attraction of wealth. Whether you are a thief or earn your money legitimately, success means having more money at the end of the month than at the beginning. When we hear that someone earns some fantastic income, and when newspapers publish that person's newest ranking in the list of the nation's wealthiest people, then money becomes a decisive measure of that person.

Individual employees and businesses use balance sheets to measure their success. A person whose monthly earnings exceed expenditures has every reason to be happy. He or she can save the money for a rainy day, invest it profitably, or fulfill some long-held dream. The same holds true for a company. If at the end of the day the balance is positive, then the world seems rosy. At the same time, a whole range of companies that once provided their shareholders with very comfortable dividends ended up bankrupt only a few years later. Even more astounding is the fact that, after World War II for example, businesses that had been leveled by bombing and whose balances had dropped off the screen, rose like phoenix from the ashes. After only a few years, housed in freshly built factories and sporting brand new means of production including qualified employees, these enterprises once again lined up at the forefront of industry as if nothing had ever happened.

Have we missed something? Factors beyond money are apparently at work here. Something that is equally powerful, if less glittery and alluring, but no less effective in guiding economic fortunes.

As early as 1959, Mewes published a document with the remarkable title "All balances are incorrect" in the framework of a course on tax law. In a detailed analysis that cited numerous practical examples, he pointed out that a one-sided emphasis on money can lead to entirely incorrect assessments with unpleasant tax law implications. "Bookkeeping captures only one category of business processes, namely processes involving capital. The remaining social processes remain undetected. For example, you can read off that capital gains were precisely 312,241.14 German marks, but you may fail to recognize that consumer trust has become eroded."

"Immaterial values", which the tax system largely ignores, are often equally if not considerably more important than "material and financial assets."

Crucial "immaterial values" might include the company's clientele, the prestige it commands, its public image, customer loyalty, the trust that customers have in a company's products and services, or with the status and popularity associated with those goods. If a company falters in these sectors, for example if deliveries are not met, if quality deteriorates, service lags, or prices hit the ceiling, then repercussions are inevitable. Mewes writes: "Current economic thought is capital oriented. This means that capital gains are the focal point of all calculations, balances and planning. Businesses and their managers have many goals, but the top priority is to increase profits and company capital. These criteria are used to judge a company's success and managerial competence." "While efforts to accrue capital do boost profits and fill company coffers, the businesses and their owners tend to become increasingly isolated from

the public at large.” In the past, capital and means of production received top priority; today, market shares have become more important. An advertising campaign for the detergent brand “Persil” openly acknowledged this by stating: “A company’s most important capital cannot be found in any balance sheet.”

Other important immaterial values include name recognition, the strength of ties with dealers, and the skill of the sales organization. In many sectors the retailers ultimately decide which products they want to promote. Other factors include contacts with authorities, suppliers, financial backers and influential opinion-makers. They are often in a position to determine what comes on the market.

At another level, immaterial values that can determine success or failure but that never appear in balance sheets are the working atmosphere, the working conditions, and the social benefits that can motivate employees. Their loyalty to the workplace, their know-how, ideas and innovative energies are crucial. This is that level where our social instincts kick in – at least more so than the chance encounters in our anonymous society. Why? Because small and medium-sized companies probably more closely resemble our historical, ancestral clans in size. We are instinctively programmed to respond to such dimensions, and the more a company resembles an extended family – the more we feel “at home” and actually enjoy our work – the more reliable our output.

In my comparative studies of organisms versus human economic structures, I determined that directly acquired energy alone – or money as a proxy for energy – failed to define actual competitiveness. Many plants and animals are known to exploit beneficial environmental conditions, and this strategy is even more important for employees or companies. This can perhaps be best illustrated in what I term the “horse and rider relationship”: putting energy to work need not necessarily involve the long detour of eating, digesting, and tedious biochemical conversions. Rather, energy can be tapped *directly* to power organs or to boost overall performance. The rider makes the horse into an organ of transportation without having to munch oats in the morning. When fish drift with currents, or spiders sail across fields and forests dangling from a modified thread, then the harnessed environmental energy works directly on their bodies and need not be consumed and converted. Humans take advantage of the same strategy. The miller utilizes water energy from a stream to force a millwheel to grind the grain. This energy is tapped without going through his or her body. When the cuckoo bird tricks another bird into brooding and rearing its young, then outside energy has once more been tapped, sparing that bird from expending valuable “food energy” for this function. Ivy and lianas climb the trunks of other plants to expose their leaves to sunlight. In doing so, they save energy that others must devote to forming trunks, an “expensive” burden. These latter examples all reflect predatory strategies that help save energy – and there is no lack of equivalents in the business world either. Every form of advertising that “piggy-backs” on some image that potential customers can identify with, is riding the same wave.

In business transactions, tapping beneficial “environmental” forces is also common: it creates the immaterial values that boost worker or company efficiency. Every friend that we rely on to help us, every “connection” we tap to promote our project or company, becomes – for the duration of that assistance – an organ that works for us. These may not be permanent fixtures of our bodies or our companies, nor is their service continuous. Nonetheless, they still fulfill

some task, still benefit us in some way. “Immaterial” is perhaps not the best term for these beneficial forces and conditions because they are actually based on material structures. To our sensory apparatus, however, they appear to be distinct from the capable entities we form.

Othmar Spann coined the phrase “implementation supercedes the implement”, meaning that when we need to get some job done, the quality of the job is more important than the nature of the organ doing the work. In this sense, the Energon Theory views both businesses and organisms as capable entities more than mere material structures. Both can be measured better by the tasks they perform than by their component organs. The organ’s material composition of the organ, its origin, and whether or not it is permanently attached to the overall body is secondary – output counts. A common feature in the animal kingdom is that entirely different organs often accomplish analogous tasks (for example the insect eye versus the mammal eye). The situation in the business world is no different – consider the many functions that machines have taken off our hands in the last 50 years.

From this perspective, we can much more easily enter beneficial immaterial values into overall evaluations and balances. While it is true that we still have more difficulty quantifying the effect of loyal customers, motivated employees, a good image, a name brand etc. than tallying debits and credits, new statistical procedures now allow us to factor in these elements as well. This is particularly important when the price of a business needs to be set during a takeover bid. No experienced businessperson would ever rely solely on balances and inventory. The resulting “true value” may end up being significantly higher or lower than the “book value.”

If we view organisms and businesses as capable entities – perhaps most akin to energy fields – then factors such as customer loyalty, know-how and good connections quite naturally become integral parts of the overall energetic structure. Customer loyalty then means altered behavior: the client becomes inclined to take some positive course of action. The same holds true for a befriended civil servant who helps you navigate a complicated bureaucratic formality. From outside we see no physical connection, but the interrelationship is much like that of a magnet that moves the iron filings about without any direct contact.

The additional organs that we designate as immaterial values and that we fabricate so extensively (compared with animals or plants) have come to play an increasingly important role in the business world. Examples include rapidly improving means of transportation and ever faster information flow, all enhanced by successive generations of microelectronic gadgets. Mewes was absolutely correct in pointing out the good prospects of companies with excellent “immaterial capital”. I refer to extreme cases as “cybernetic businesses”, i.e. where a single individual with the right know-how drums up the best collaborators and companies for each particular job and who can create something without necessarily having production means of his or her own. We have already discussed case studies such as those of Kürner or the successful coffee roaster; these enterprises ultimately became cybernetic businesses because their owners were able to earn a living by leasing their know-how, spawning similar business structures in other cities. In effect, the entire activity had been delegated to others.

The following lines that Mewes wrote are fully in line with OBS teachings: “It is an old pitfall to think that every business must actually own the factors it works with. This is simply incorrect.

These factors need simply be available in some form. Traditional economic thought has held that most of a company's working capital should be company capital. This dogma has been shaken, and the percentage has been steadily decreasing over the past decades. Banks and insurance companies tend to have the lowest values (often under 10%). Interestingly, these very sectors have become social powerhouses and have shown the strongest growth. Attractiveness rather than company capital is the bottom line."

Mewes developed guidelines for a "dynamic balance" designed to enable companies to better control all those forces – including immaterial values – crucial to their health. This is the only strategy that enables a company to quantify whether it is developing in the right direction or not⁴⁹. Those business that had been bombed out during World War II or that were dismantled and shipped away in its aftermath (at a total loss of production means and financial reserves) simply had a strong enough image to fully compensate for these losses. They were the first to receive credit, and former employees who survived the war were the first to line up at the gates for work.

Mewes' "dynamic balance" is backed up by the standard profit and loss accounts. In a first overall index, "the figures in the annual balance are condensed to show the key changes – this cuts through the incomprehensible jumble of numbers that often hinders a true evaluation of the situation." The second overall index then concentrates on a more holistic view: "traditional balance sheets focused on the development of a single factor, namely capital, whereas the holistic overview focused all senses, efforts and resources on the respective minimum factor by examining the shortages, dependencies, and synergies in all the relevant factors". This form of balancing admirably complemented the overall EKS concept. The first step was to eliminate one minimum factor, then concentrate on the next. The feedback from all those involved served as an "autopilot." The steady dialog with the target groups becomes an important part of the process.

From the OBS perspective: is this form of balancing, originally developed for businesses, also applicable – in modified and simplified form – for individual careers or even personal improvement? If we want to improve our quality of life and attain happiness, this becomes an issue, i.e. we must strike a balance between the value we attach to our income versus that attached to growing immaterial values.

The psychosplit tends to reek havoc on such considerations because money, as an overpowering key stimulus, automatically diverts our attention from the immaterial values and their significance. The first part of this book devoted considerable space to explaining our innate drive to earn money by one means or another. Since money promotes all innate drives and can fulfill virtually all of our wishes, our other drives all amplify the central drive for money (Fig. 9). Once we understand the underlying mechanisms, however, we can relegate money – the most powerful organ we ever created – to its role as a valued servant rather than manipulative tyrant.

The irony is that the overpowering drive for money is *reinforced by practically every key stimulus we encounter*; this effectively hinders us from maximizing our earning potential. The psychosplit directs us toward the quick dollar, causing us and everyone else to miss valuable sources of income. All that glitters exerts a magic pull. The result? We fritter away our

energies and devote too much thought to unprofitable activities. The drive for money becomes a weapon that turns on its owner.

This drive also works to our disadvantage by breaking the transaction or barter process down into two increasingly separate phases. In principle, putting food on the table is an indivisible process that was once direct (predation) but now indirect (via money). Money allows us to do more than merely purchase food and other necessities. It allows us to satisfy almost every instinctive need and most personal desires. This means that the indirect transaction process – obtaining what we need by selling products and services – becomes decoupled from the original aim of the transaction (direct exchanges for food still exist in underdeveloped or famine-plagued peoples). Ultimately, the second half of the act can recede into insignificance, leaving greed (for money, things, and power) a new central pursuit in life. Many oh-so-envied millionaires and billionaires fall into this trap. They are no longer in a position to actually spend their money for comfort and pleasure. Many die of stress-related symptoms, and the accumulated wealth ultimately goes to heirs who put the money back into circulation.

As opposed to most innate and acquired drives, the central drive for money has no “consummatory act” that shuts it down. If we are hungry and eat, then our hunger is stilled for a certain period. If our sexual drive triggers appetitive behavior and we find the right partner, then that drive, which in some is strong enough to trigger criminal acts, is stilled. If we are sleepy and go to bed, then we wake up refreshed. If we are in an aggressive mood and can take that aggression out on some object, then our mood tends to be more peaceful. The same holds true for acquired drives. If we devote all our energies to getting a car, and we finally get that car, the matter is put to rest. The drive for money, however, has no discernible endpoint because our fantasy knows no bounds. Our fear of accidents, illness, war and death also play a role. Money lends security. But it can also enslave us.

I once met a man in Samoa who showed me the exact opposite strategy. Nature is friendly there, life peaceful, and this man took each day as it came. He hung around with his friends, laughed, joked, enjoyed watching pretty girls walk by. If he needed a new shirt, then he would ask the price. And then get a job that would pay precisely that sum. After completing the job, he would buy the shirt and go on his merry way.

In our modern world, that strategy has become totally unfeasible. That islander, however, lived the most pure form of acquisition by the two-tiered transaction or barter process. That harmonious approach does show that money is a means and not an end, a servant and not the master. One way forward would be to enter into an ongoing inner dialogue to determine what our personal goals are and what motives we have in pursuing them, with equal weight being given to earning money and gaining immaterial values.

8th Consequence:

Employees are not production means and employers not the horn of plenty

Nowhere in human history has the psychosplit exerted such an inhibitory and distorting influence as in the mutual relationship between employers and employees. Our conflicting internal control mechanisms shackle us to positions that have remained virtually unchanged since the Stone Age. Recognizing and eliminating those conflicts can go very far in dismantling the barriers that persistently hinder social, economic, and political progress. This would also help promote the human harmony that so many have devoted so much energy to achieving.

In most market economies, the two constituencies that most influence government decisions are the employers and self-employed on one hand and workers and employees on the other. This underlines the gravity of the inner conflict outlined above. Moreover, the countries with the greatest weapons arsenals all lay claim to the one true ideology: one promises to fight for workers' rights, for example, the other for unfettered business and private capital. Each side has more than once threatened to unleash nuclear weapons to protect their standpoint. If, however, conflict between employees and employers is rooted in corrigible short-circuits in our brains rather than in fundamental constraints, then it would be advantageous to shift our focus from the behavior of others to the actual site of the conflict, namely our own brains.

We are all aware that the root of all this enmity lies in the way the spoils are divided. At the same time, economic development would clearly be impossible without orders being given and orders being followed. As long as our early ancestors about 2 million years ago were organized in small groups of hunters and gatherers that slowly gained the upper hand on the plants and animals around them, as long as human populations had room to spread across the continents, these extended clans could enjoy some semblance of harmony. This is not to say that hierarchies in command were non-existent, or that those in higher positions did not receive a larger share than their underlings. But this arrangement enjoyed acceptance – as long as things were not taken too far. Avenues were available to attain higher rank and, after all, only few had the courage, commitment, and ability to do so. The others were generally quite satisfied to have someone competent make the decisions and take over responsibility. At any rate, all clan members ultimately pulled together and stood up to the common foe: competing clans. Personal enmities were quickly buried in the ensuing battles and wars. Later, when human populations became sedentary and grew faster, transactions in business settings changed the situation dramatically. The radiation of new professions and trades led to decisive conflicts of interest within the clans – and the psychosplit yielded the first semi-predators in the ever larger communities.

We can begin by examining the tradesman who set up larger production centers and had to hire employees as coworkers. The employer-employee relationship also involves exchange or transactions: the former pay the latter a certain sum of money and in turn receives that person's collaboration.

We don't need much imagination to recognize that employers, who initiate the process, will be tempted to yield to predatory instincts and seek to obtain the most work for the least pay. When the tasks are simple and clearly defined, or when the pool of workers is large, then this approach can succeed for quite some time. Nonetheless, in the past and even more so today, it clearly runs counter to the optimal barter or optimal business strategy and ultimately works to the employer's disadvantage.

An additional instinct control mechanism reinforces this process, namely the oldest strategy common to all organisms – the drive to successfully compete with others. Since the origin of "life" about 4000 million years ago, the organisms that fueled the evolutive process have all functioned based on a division of labor. The individual components of each such "system" were responsible for some specific task. And the more rational this process, the more competitive that organism. Any innovations that boosted fitness, or any other "rationalizations", were the main weapons in competition. Those who achieved the best overall capability or the best self-defense – with less effort, more quickly and with a lower error rate than the others – were at an advantage. They survived and reproduced, whereas the others fell by the wayside and perished. This *inevitably* promoted rationalization in all organisms, a process fully in line with the economic principles in the business world (compare Fig. 17).

Naturally, the behavioral mechanisms that "higher" animals learned through experience were also tailored to fulfill the necessary functions quicker, better and more efficiently. Once humans began to conduct business, triggering the conflict we define here as the psychosplit, all these once highly successful and positive strategies suddenly took on negative implications – at least in this key sector.

Even today, every freelancer and every company strives to maximize yield, performance, quality, customer satisfaction and market response while at the same time minimizing energy input – thus maximizing profits. The available resources must be employed as effectively as possible and superfluous costs avoided. While this is valid for acquiring tools, designing facilities, or deploying machines – *it is invalid for humans as a means of production!* If I hire someone – if I make that person my "additional organ" – then a whole new scale of values and reactions enters the picture. Rigorously applying the criteria of supply and demand here, and attempting to maximize output while minimizing input, leads to disadvantages and losses that far outweigh the advantages.

Every business that hires people as "additional organs" is automatically and irrevocably subject to archaic developmental and behavioral maxims that *steer every organism that ever existed*. And these maxims urge us to avoid extraneous costs both in acquiring and maintaining any means of production. This therefore also applies to business transactions and reflects the OBS criteria. Human "tools" are the crucial exemption. Why? Because they are versatile and can develop into much more powerful organs under the proper leadership. Who hasn't heard

about some low-level employee who rose through the ranks and to ultimately steer the fortunes of the company!

Mewes told me the story of a woman who founded a dynamic company but whose initial successes had ground to a halt. She solved her problem by making her two chief co-workers into partners, going as far as giving them one-third shares in company profits. Her lawyer was exasperated and urged her to retain at least 51% ownership. The gist of the story is that, within a few years, her personal income was twice as high as it had been when she still had full ownership. Her success was also enhanced by a very clever profit-sharing system she devised for the benefit of all employees.

Two factors therefore severely obstruct true partnerships between employers and employees despite the potential advantages for both partners. First, the psychosplit activates the employer's self-interest strategy. Second, the employer's instincts tell him or her to rationalize, to view coworkers as "just another means of production", leading to major miscalculations and abuses.

Such abuses once prompted Marx to formulate his call for an overall ban on the ownership of production means. This ultimately turned out to be a serious flaw of logic with tragic consequences. The communist states that implemented this line of thought and strove to give every worker a fair share of the profits, themselves became huge enterprises. Even with the best intentions, they were forced to diversify immeasurably and proved incapable of satisfying the demands of such vast numbers of customers. At the same time, the "share-holder", the worker and citizen, became so removed from the profit-and-loss level that the motivation for true commitment was lost. While Marx was correct in considering the "added value" that humans, as opposed to all other means of production, could create, he failed to recognize the added value that private businesses contributed to the common good due to their initiative, their spirit, and their willingness to take risks.

The grave dissonances that the psychosplit has triggered in the behavior of employers toward employees are accompanied by a spate of no less serious problems.

Innate behaviors in animals are not restricted to foraging or hunting, but also involve recognizing enemies and initiating the appropriate flight, hiding, or defense reactions. Detecting and dispatching prey requires focused concentration, which inevitably lowers defense mechanisms against foes. This can easily lead to situations in which the would-be predator ends up landing in someone else's stomach.

Additional control mechanisms developed to counter this risk, among them the typical "securing" behavior shown by most mammals. Feeding monkeys automatically look back and to both sides at regular intervals. Although such behavior might seem superfluous for humans in modern civilization, where predators need no longer be feared, it has been retained. I was able to show this in all corners of the world by using a hidden camera to take time-lapse films of people eating.⁵⁰ Once you are sensitized, you can recognize the phenomenon in every restaurant, especially in people sitting by themselves. Their eyes involuntarily dart back and forth from side to side.

This "caution" we exhibit when consuming our food belongs to the predatory behavior repertoire of almost every higher animal is activated by the psychosplit and impedes OBS-guided strategies in business. The problem is not our physical head and eye movements, but the exaggerated caution and attentiveness toward potential predators. We shouldn't be surprised to hear that this behavior is inevitably expressed in mistrust towards employees. After all, experience and logic dictate that such "subordinates" represent potential enemies (and theft is certainly not a rare phenomenon in business). The damage is all the greater if industrial espionage is involved and important information falls into the hands of the competition. Every employee is "inside the fortress walls" and can take advantage of that insider position. Whereas animals can innately recognize their enemies, we have much greater difficulty determining what intentions our fellow man harbors.

In order to motivate employees to view the company as their partner, they must be treated fairly, and in a friendly manner, although this can also lead to difficulties. As we have learned, predators and semi-predators alike may well interpret – and exploit – such friendly behavior as a sign of weakness. The solution is to create mutual trust that motivates employees to identify with the company and its philosophy. Surveillance and control are not necessarily the appropriate means. Neither is overly friendly behavior.

How can we solve this dilemma? How can employers and employees forge a partnership based on mutual trust despite these instincts, whose origins most are blissfully unaware of? The above-mentioned businesswoman who made her two employees into equal partners provided me with the answer: "The goal can only be achieved in a series of small steps! Only such small steps reveal whether outstretched hand is actually being accepted and the concessions are not being interpreted as weakness that will one day be exploited."

The psychosplit exerts another major influence on the employer-employee relationship. Beyond occasionally resorting to theft or joining forces with competitors, employees can become the competitors themselves, a common and no less damaging event. They have gained valuable knowledge and experience, made important contacts, and then, one day, steal off on their own, more often than not taking any number of once-trusted clients with them. From the evolutionary standpoint, this process is very simple and easy to understand. After all, every animal, even though it is unaware of the underlying process, plows all its gains – its "profits in the business sense – into a reproductive effort that ultimately creates new competitors. No other animal is better equipped structurally and behaviorally than members of your own species: conspecifics are the toughest competition. Although many innate mechanisms help prevent members of the same species from seriously injuring each other (e.g. submissive postures and gestures), this is only a drop in the bucket. The fact that the conspecific feeds on precisely the same prey means that it is ideally suited to inflict major damage, unless it is a member of the same pack. We humans have reached a point in which no one necessarily needs to invest all his or her gains into producing "more of their own ilk." No ironsmith is forced to fund additional ironsmiths. Excess profits can be used for entirely different endeavors, for example opening a restaurant or a hairdressing salon, which represent as little competition for the ironsmith as a bee for a wolf. Our many additional organs and enormous range of new professions means that no one needs to compete directly with another person. Individual business careers are as diversified as the feeding strategies in the animal world⁵¹.

Predatory instincts are therefore mirrored not only in caution toward other would-be predators but also in vigilance toward conspecifics as key feeding competitors. This tendency is supported by conditioning (i.e. via the psychosplit) and inevitably pits employers against employees at the workplace. Logic and experience chime in, "Be careful. As much as you may like this or that person, they can become competitors at a moment's notice." These motives make it difficult for employers to build optimal, partnership-based relationships with employees.

Employees are in the same boat. For them, employment, i.e. selling their services in a transactional process, is how they earn their money. The psychosplit talks them into looking out for their own best interests as well. The employers' suspicions that employees are out to take advantage of them is precisely what the psychosplit is animating the employees to do.

The ambitious careerist in a larger company is confronted with a difficult question. Who, according to OBS guidelines, is my target group? The client whose problems I am supposed to solve expeditiously? My immediate superior? The department manager? The overall company? Or the business sector itself, in which case I should switch over to the competition because I can serve them better? Or perhaps an entirely different business sector because they are in more dire need of my services? And how can I make the influential contacts I need? A wide range of books provides advice on these matters, and Vance Packard very vividly described how to scale the rungs of the career ladder in larger U.S. companies⁵². A witticism that every businessperson should take to heart is, "Everyone looks out for themselves, I'm the only one looking out for myself." The goal is to overcome that attitude. A crucial aspect from the OBS perspective is how, by creating awareness for and then neutralizing the mutually disadvantageous predatory instincts triggered by the psychosplit, inner tensions can be relaxed and "inner friction" reduced in both employers and employees. The more a business forges itself into an entity that functions to everyone's satisfaction, the more successful its output⁵³. The take-home message: employers should not view employees as a means of production, and employees should not view their employers as the horn of plenty.

9th Consequence:

Set your sights on qualitative growth

Today we find ourselves at a crucial crossroads in the history of mankind and in the evolutionary process as a whole. The scope and power of the additional organs we have developed to enlarge our cellular bodies now exceed the opportunities that our planet provides. The admonitions of the Club of Rome are entirely justified. Sooner or later we will have exhausted our resources, and the damage caused by industry and technology is becoming increasingly irreversible. This is compounded by the increasing impact on plant and animal life and by our tendency to mould this planet's biological communities, which have evolved over millions of years, to fit our fancies. The exceptionally complex web of relationships has led to the many unexpected negative repercussions that we face on a daily

basis. The motor behind this development is the affluent, throw-away society that we all rant about but that few are willing to forgo. The fact that none of the expects espouse a zero economic growth rate adds fuel to the fire. Every evaluation of a country's success invariably focuses at least initially on the national product and on trade balances. The motto "grow or die" lies at the root of the problem. At this crossroads, a brief look at evolutionary history, which we have often failed to consider in evaluating our development, can provide valuable insights. After all, our planet has experienced such "zero growth" in the past, and we can clearly see what happened in those cases. The development of life has twice hit a barrier that hindered further quantitative radiation of this organism-based process (Fig. 20). The first radiation took place in the aquatic environment (in the sea, in rivers and lakes) and, through untold adaptations of uni- and multicellular organisms, ever new habitats were conquered, ever new opportunities taken. The settlement of the deep sea down to 10,000 m and more is a perfect example. Other examples include the highly diverse fauna that developed in muddy bottoms, or the recently discovered communities living between sand grains. The interspaces of the tiny grains of sand that make up our vacation beaches harbor a fantastic range of specially adapted, "miniaturized" animals.

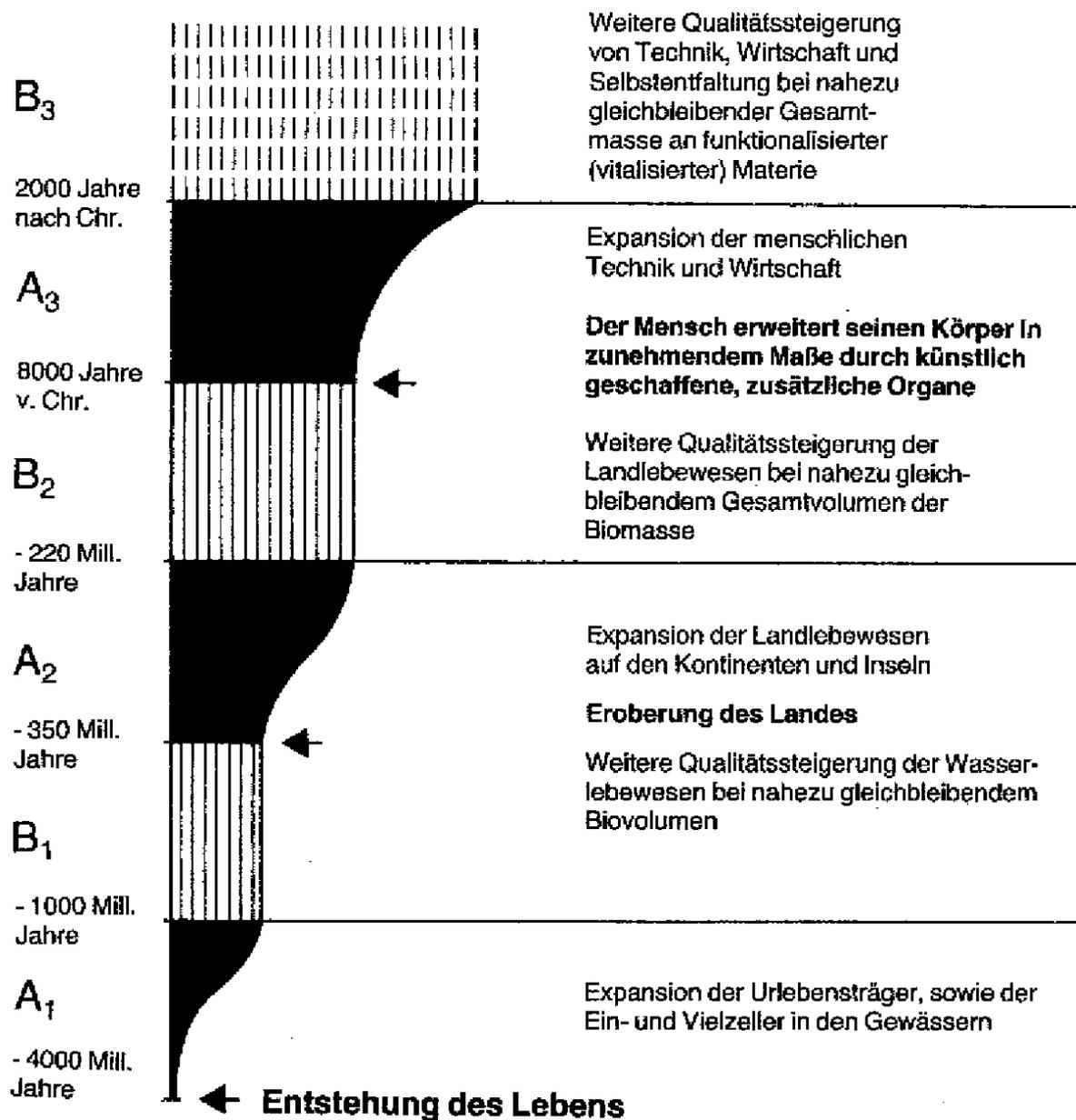


Fig. 20: *Periods of quantitative and qualitative growth (highly schematic). Over the last 4000 million years, the expanding life process (A₁, A₂, A₃) was interrupted twice by long periods of zero growth (B₁, B₂). We are now entering a third such phase. As in the past two cases, qualitative growth becomes the dominating competitive factor. See text. After H. Hass 1981.*

(Additional quality gains through technology, Expansion of human technology and economy, Humans increasingly expand their bodies with artificially created, additional organs, economy and personal improvement accompanied by virtually stagnating overall mass of functional or "vitalized" material, Expansion of terrestrial organisms across the continents and islands, Conquest of land, Additional quality gains of terrestrial organisms accompanied by virtually stagnating overall biomass volume, Additional quality gains of aquatic organisms accompanied by virtually stagnating biovolume, Expansion of archaic life forms as well as of uni- and multicellular organisms in aquatic habitats, Origin of life)

Roughly estimated, this first quantitative expansion of life came to a halt about 1000 million years ago. The various species and phyla of plants and animals remained locked in their competitive struggle for life, but the key criterion of selection increasingly shifted to "quality". The overall development had entered a tunnel, as it were, that limited the total volume of the potential radiation: the prize went to those mutants (organisms with altered genetic makeup) who were able to deliver the same capability with less effort, with greater precision, or more quickly. This became their "selective advantage" and automatically boosted the effectiveness of "natural selection".

Their organization surpassed that of their rivals in efficiency and quality, enabling them to reproduce while others fell by the wayside and died out. Successful species expanded numerically by conquering habitats occupied by others, but the overall space available to organisms was limited and the overall biomass hovered around a statistically more or less constant level that could not be exceeded.

Qualitative growth had precedence in this first period of zero growth, initiating true "higher development" in the various phyla. This boosted the capabilities of certain plant and animal species to such a degree that, 400-350 million years ago, some left the water and conquered new space on the barren land. Although qualitative growth continued to play a role, this ushered in a new era that thrived on opportunities to radiate quantitatively into ever newer areas and niches. The overall organismic biomass increased in leaps and bounds.

Nearly 220 million years ago, the continents and islands that could support life were colonized and the evolutionary process once again entered a "tunnel" that put limits on the potential overall volume. For a second time, the selective value in the struggle for survival shifted to qualitative advances, i.e. innovations and rationalizations designed to achieve the same performance with less effort. Among many other advances, the process this time yielded an organism that used its special mental powers and adept hands to supplement and expand its body with organs made directly of environmental materials rather than of cells (as had been the case up until then). And these advances were no longer based on chance mutations but on conscious insight into cause-and-effect. It was no longer necessary to incorporate these advances into the genetic makeup. Instead, the information could be passed on directly from one individual to the other through language, which was also developing at the time. Through these organs, which could be put aside and exchanged, humans gained considerable superiority over their animal counterparts. The subsequent indirect form of energy gain through bartering and other transactions multiplied our power base and further accelerated our expansion. More and more inorganic material was transformed into functional structures, boosting overall "biomass" to new heights (if we discard traditional interpretations and count our new organs as an entirely natural part of evolution). This third phase of expansion is also drawing to a close, simply because of the limits placed on this development by planet Earth.

According to my estimates, we have recently entered a new, third "tunnel" that corresponds relatively well with the turn of the millennium. It is defined more by the negative impact of further, unbridled expansion than by any potential biomass increases. Based on the power we have gained and the inherent severity of future conflicts, we may actually face the destruction of the entire evolutionary process – both that of humans and of life on our planet as a whole.

Once again, the chief factor governing competition in the present tunnel is qualitative growth. Competition is still the catchword, whereby structures better adapted to market demand displace less suitable or less attractive products. The potential overall volume is once again limited; this time, however, the limits will hopefully be set by human reason and not be forcibly imposed upon us by environmental constraints. Moreover, qualitative growth is now splitting into two directions. The first, much like in the earlier tunnels, involves improving performance while maintaining the same level of effort, or maintaining the same level of performance with less effort. The development of computer chips over the last few decades is a case in point: every five years their capacity has multiplied several-fold while their cost has decreased several-fold. The second aspect may well be the more important of the two, and its primacy can only increase with time. I am referring to raising the quality of our lives – a phrase whose meaning still remains rather vague and that is open to a broad range of interpretations.

In the economic sector, the internationalization of markets and the ever more rapidly changing market demands mostly affect large corporations. During “bear” markets, their desire for rationalization translated into efforts to cover all operations in-house rather than by outsourcing (haulage, legal advice, sales promotion, etc.). This gave rise to “dinosaurs” that, in today’s economic environment, are too rigid, too inflexible, too high-risk. This initiated a trend reversal in which such giants were dismantled into smaller, more flexible units termed “profit centers”. The creation of “quality circles” reflects the desire to boost internal flexibility and adaptability by deploying small, highly motivated teams. A particularly interesting concept was presented in the framework of an EKS seminar by Gerhard Wilcke, the managing director of Berolina KG in Berlin. The idea involved making employees into independent businesspeople, i.e. setting them up in separate businesses. He convincingly argued that both sides reaped advantages. His experience showed that the required work was done faster and cheaper, the administrative effort was reduced, the newly independent unit paid lower taxes and insurance premiums, and was also able to work for other clients that were not direct competitors. The epitome of this development is the previously mentioned “cybernetic business”: it consists of a single person as a fixed hub, is burdened with no fixed costs, and can temporarily affiliate itself with the appropriate firms, suppliers, etc. to gear up for production quicker than others.

At the same time, attempts to improve quality can also create new dinosaurs. An example would be an ambitious leasing business that successively buys similar companies in other countries and either restructures or enters partnerships with them. Such an expanding business will reap immaterial values from the experience it gains and contacts it makes in the expanded market, while the partners benefit from a more solid financial footing and better access to know-how. The same holds true when companies from different countries enter into a cooperation, enabling each to access the other’s market experience. Such expanded power bases can be used to conduct the expensive research-and-development programs that ensure long-term success.

All such strategies that can ultimately lead to monopoly-like constellations must redouble their focus on the customer and incorporate OBS guidelines. As Eucken already showed back in 1953, when monopolies are established solely to create ruthless power structures and sinecures, they negatively impact the economy, drive prices up, reduce the quality of goods and suppress potential progress. On the other hand, the EKS program also leads to

monopolies, albeit on a small scale (market niches), that help the clients and the overall economy. If these systems revert to their old ways and allow semi-predatory practices to gain the upper hand, then competitors operating according to EKS guidelines will eventually drive them out of that business sector.

The rise of new, customer-oriented conglomerates such as the “Migros” chain of super shopping centers founded by Duttweiler in Switzerland are by no means the often vaunted lethal threat to small business. Mewes writes, “Small and medium-sized businesses stare like frightened rabbits at the increasing number and effectiveness of these giants and fail to recognize the new and quite fertile territories in the void left between the mass consumerism cornered by the giants and the ever more specific needs of individual customers.” “The gap between increasingly standardized services and increasingly individualized demand is growing.” The greater the emphasis placed on qualitative growth, the greater the probability that we can achieve Teilhard de Chardin’s “supradifferentiation” in our life strategies and therefore in demand⁵⁴.

Many business sectors have already begun to switch from maximizing profit to maximizing quality. One reflection of this is the establishment of international entities such as the European Organization for Quality. As early as 1983, Prof. Dieter Seghezzi, president of the aforementioned organization and former board-of-directors member of the quality-oriented Hilti concern in Liechtenstein, wrote: “Some companies continue to rely on quality concepts stemming from the 1950s and 1960s, an era of economic upturn, full employment, and the belief in unlimited resources. As everyone will have realized, this situation has changed considerably over the last 10 years. Today, the situation has reversed itself entirely. This calls for bringing every thing and everyone – the structures and methods of quality assurance, the training of management, staff, and quality control experts – up to speed.”

In my opinion, the optimal transactional strategy will most quickly and most effectively gain a foothold in those economic sectors that rely on building a loyal, long-term clientele. After successfully sensitizing one sector, the new approach could successively be extended to other economic sectors, forcing semi-predators to lose ground on all fronts.

This constellation leads to the second aspect that we face as we enter the third tunnel. This aspect may even eclipse the quality improvements provided by our additional organs. We are increasingly being called upon to decide how to best come to terms with our planet, with the innate “nature” that determines our drives and emotions, and how to optimize the quality of our lives in light of humankind’s great cornucopia of lifestyles. The tunnel analogy is merely meant to reflect the spatial limitations imposed on our future development and is by no means a gloomy scenario. Quite the opposite: it is entirely up to us to build societies that were once considered utopias but that can in fact be attained with a modicum of insight and good will.

In my opinion, the OBS is the first step in this direction⁵⁵. Optimal cooperation is founded in transactions in which each of the partners benefits equally. We all have an innate tendency to be friendly, helpful, understanding, compassionate, and to make sacrifices for the common good. These traits initially arose in ancestral predatory animals and were differentiated and further refined by the intelligence and self-awareness of early humans. Still, these tendencies are insufficient in themselves to serve as a foundation for an ethics of universal partnership in today’s anonymous mega-societies. Much less can they hold together the “global citizenry”.

This is particularly evident in the very intensive efforts of major religions, particularly Christianity, which so centrally espoused brotherly love. There always have been and always will be individuals in all four corners of the globe who, through personal initiative, actively stand up to counter the appraisal of humans as beasts that can only be tamed with force; their positive message can help bring us all closer together⁵⁶. In fact, history shows that these messages have always simply been too weak to have the same positive effect in an anonymous megalopolis as they exert in a small village. Preaching “altruistic behavior”, a mantra in every epoch, is hopeless and doomed to failure. The only solid basis for a fundamental reorientation is if we can demonstrate that the “human savage” benefits more by focusing on the advantages of others.

The fact that such a re-orientation is possible – even without insight into the underlying biological causalities – has been clearly shown by no-nonsense businesspeople adhering to EKS guidelines. I once said in a lecture that EKS-followers could be distinguished by the sparkle in their eyes and their good conscious. Sparkling eyes because they were successful, a good conscious because their activity helps others.

Mewes, who never tired of repeating his motto, “Your strategy is wrong,” over the media and in personal discussions, sought a scientific foundation for his economic school of thought and aired a number of interesting concepts. The psychosplit phenomenon, which so dramatically impairs lofty progress in interhuman matters, has finally solved the mystery of why we oh-so-clever humans happen to falter and go astray in a field as important as business.

Ever since Konrad Lorenz’s book “On Aggression”, we have held our “aggressive drives” to be largely responsible for the defective side of humans. This curious drive, which is directed at our fellow man, probably lies at the core of many an unfriendly mood or predisposition. In the ranking of instincts, however, it is rather subordinate. Despite having a certain selective value in defending “territories” as well as in hierarchical fights for dominance in social animals, it can by no means be compared with the significance of feeding instinct; the drive to gain energy is rooted in the origin or life itself and remains the prerequisite for all other drives. Since cannibalism in humans is extremely rare, it was difficult to imagine why the feeding instinct should direct itself against our fellow man. The psychosplit, however, triggers precisely this phenomenon. Note that our additional organs represent a much more desirable booty for thieves than meat. These organs can be used “as is” to empower their owners, without first being eaten and digested. Selling them means conversion into instant cash – the ultimate magic wand.

Simply because the predatory behavior of our ancestors remains deeply engrained in our subconscious, why is it such a problem to eliminate the psychosplit and its effects and why is it still part of the semi-predatory world? Detective and Wild West films enjoy such high ratings because our instincts yearn for the “lost homeland” and wish to return to that setting, at least in our fantasy. In my opinion the fascination lies less in the much vaunted struggle between “good” and “evil”, but in the archaic milieu of the robber/predator we all enjoy returning to on celluloid. Why else would ruthless, powerful, even criminal persons exert such a magnetic attraction on the general public? Why do we cheer for or even follow evil potentates or clever scoundrels more than the conscientious “do-gooder.” In my opinion this is why many semi-predators, who apply predatory tactics to conduct business, will be difficult to win over to the

OBS and EKS strategies, even if this unwillingness to “convert” ultimately diminishes their success. Strategic uprightness is simply too boring for them. Risk, instant success and overpowering others – either physically or intellectually – provides a greater sense of happiness than direct profit.

Another area in which OBS can be applied is human behavior in the family and social setting – “private life” as it were. Countless interrelationships define happiness and satisfaction, and there must be 1001 different transactions in this realm that do not involve money. This would also be a fruitful field to study whether focusing on “others” might not be more profitable than focusing on “me”.

Recapitulating: Science tells us that animals – as primitive and different as they may appear to be – are the organisms from which we arose and where we remain anchored despite all our superiority. Our egocentricity would have the plant kingdom and all the creeping and crawling animals serving our every need. It would also be fruitful to study whether underlying transactional processes that fall under the OBS guidelines are at work here as well. Until today, we continue to confront living nature with a predatory attitude that borders on sheer, unbridled carelessness. The pendulum, however, has begun to swing in the other direction and the many negative repercussions are coming to light. The human race is beginning to assume a new attitude, albeit for the time being only when it suits our immediate interests. Today’s “environmental protection” continues to reflect our semi-predatory approach and will require considerable modification before a “fair balance” and partnership are established. An additional balance, which has preoccupied philosophers over the ages, is that between humans and their possessions (additional organs in our vocabulary). How many possessions can an individual cope with? When is the “human dimension” transcended? When ever more possessions lead to less satisfaction, then something is clearly amiss⁵⁷. In my opinion, modern economic thought, whose mantra is to increase turnover, stumbles into the pitfall of the semi-predator’s logic and suffers the full brunt of the psychosplit. It is poorly compatible with qualitative growth.

Human impressive behavior – part of the inventory in our social drives – adds fuel to the fire. When a house or a dress loses value as soon as our neighbor builds him or herself an even more beautiful residence or the neighbor’s wife buys an even more elegant dress, then, again, something is amiss. This yields a final research topic in the balance between our instincts and our true, personal interests: does this behavior contain transactional elements amenable to evaluation by OBS criteria?

Several decades ago a young American burned his passport and founded a “global citizenry” movement. He attracted more followers than he could handle. Perhaps our development has progressed to a point where this experiment could be repeated with even greater success.

Epilogue

I am fully aware that the present portrayal must remain very incomplete and cannot incorporate many of today's hot new disciplines. My purpose, however, was to introduce a fundamentally new perspective and orientation, one that might be more helpful to us all than the traditional convictions that have kept us neatly marching down the same worn path.

My efforts were directed at showing that our evolutionary situation is characterized by two highly neglected transitions – the first being the chain of events unleashed when we began to produce additional organs, the second equally decisive one being the shift from gaining energy using predatory strategies to making a living through transactional processes.

Overcoming the psychosplit that these transitions dramatically and inevitably provoked is, in my opinion, a priority for humanity, which often appears to lack a common goal and is overly devoted to the pursuit of instant gratification. It may well be that this "me-generation" orientation has progressed to a point of no return, to our great detriment. We have clearly reached a crucial fork in the road. Either we continue trodding blindly down the same old path, which in my opinion would ultimately lead to the self-destruction of life on our planet. Or we choose the other path and attempt to make humankind's long-held dreams a reality.

Remarks

1. H. Hass: "Energon. Das verborgene Gemeinsame" (Molden, Vienna 1970). The book is out of print and was newly published in slightly modified form in the "Naturphilosophischen Schriften" Vols 2 and 3 (Universitas, Munich 1987).– I published the Energon theory as a set of theorems together with H. Lange-Prollius in 1978. E. Siegl mathematically formulated selected aspects in 1985.

2. An overview of my diving activities as a marine biologist can be found in my book, "Abenteuer unter Wasser. Meine Erlebnisse und Forschungen im Meer" (Herbig, Munich 1986). All earlier books on my diving expeditions (13 titles) are out of print. Together with I. Eibl-Eibesfeldt I published a book about shark behavior, "Der Hai – Legende eines Mörders" (Bertelsmann, Munich 1977). It is also out of print and a new, modified and expanded edition was published under the title, "Wie Haie wirklich sind" (DTV, Munich 1986).

3. I received valuable input through the discussions after lectures and during seminars: for the management of *Nestlé* and their most important clients; for the clients of *Nixdorf Computer AG* in the sectors trade, insurance and credit institutes; for the managers and technicians of *Alfred Tewes GmbH* in Frankfurt; for the directors of medium-sized businesses at *Heinz-Gernot Nieter* in Freudenstadt; for the *Alfred Kärcher GmbH* in Winnenden; for the programmers of *IBM* in Vienna; for the *Wirtschaftsjunioren* in Freiburg; for the clients of *Peat Marwick &*

Mitchell in Frankfurt; for *EKS* adherents in Kronberg, Vienna and Linz; for the participants at the *Deutsche Manager-Kongreß* and the *Deutsche Sekretärinnen-Kongreß* in Frankfurt; for the *Freiheitliche Akademieverband* in Vienna; as well as for the additional student associations, clubs and scientific bodies. I gained important insights and impulses at the *Europäische Bildungsgemeinschaft* in Stuttgart.

4. Mass is also a manifestation of energy. According to Einstein's mass-energy equivalent ($M = E/C^2$), every gram of any material (iron, straw, cellular material, oxygen, etc.) has an energy value of 9.1016 joule. In 1932, C.D. Anderson became the first to totally convert mass into energy, and in 1933, P.M. Blackett and G.P. Occhialini succeeded for the first time in converting radiation energy into mass. According to modern physics, everything known and scientifically demonstrable in the universe is some manifestation of energy.

5. Information transfer plays a particularly important role in the overall life process. In the reduplication process, i.e. in reproduction, correct instructions are required to develop the next generation of conspecific structures (protobionts, organisms). Efficient movement also requires commands to those organs performing the tasks. The more complex an organism and its functions, the greater its "information" content, which is passed on to its offspring. The genome stores this information. From this perspective, life can be viewed as a process that accumulates ever more information, i.e. an information-gaining process (Lorenz). Without energy, however, no processes, no higher development, and no information transfer can take place at all.

6. Accordingly, plants encompass the "autotrophic", animals the "heterotrophic" organisms. This no longer fully corresponds with the modern systematic framework because the bacteria, for example, are counted to the plants although they gain energy by breaking down inorganic compounds (hydrogen sulfide, ammonia or ferro- and ferric compounds). Plants are therefore interpreted here as all organisms that undergo photosynthesis, animals as all those that acquire energy by breaking down organic substances (oxidation or fermentation).

7. Applying the term "predator" to virtually all animals is clearly suboptimal because it has negative connotations in everyday language usage. From a neutral perspective, however, all animals feed by appropriating "foreign matter", and no other term captures this process better than "predation". Symbioses are no exception and will be dealt with below.

8. We judge animals positively and negatively based on two factors: First, on the highly subjective criterion of whether they are useful or represent a threat to us. Second, on innate reactions, as indicated by Konrad Lorenz in his publication, "Die angeborenen Formen möglicher Erfahrung" (Zeitschrift für Tierpsychologie 5, p. 235-409). We react innately to key stimuli as outlined in detail in Premises 3, 8 and 9. We project some stimuli, such as our fondness for small children, to animals with similar features, which we then tend to view as being "cute". Others, such as those that indicate features we normally associate with healthy human bodies (i.e., "lean", "powerful", "perfect skin"), are also projected on animals with similar characteristics, leading to a situation in which deer are "beautiful" and pigs and toads "ugly". For more details, see K. Lorenz 1978 and I. Eibl-Eibesfeldt 1984.

9. Over the few decades, the issue of “selfishness” and “altruism” have been hotly debated in the field of biology and especially sociobiology. In his book, “Aufopferung und Eigennutz im Tierreich” (Stuttgart 1941), the well-known zoologist O. Heinroth warned his readers about incorrectly interpreting animal activities and behaviors so that we can “reach the correct understanding of the apparently brutal selfishness in the animal kingdom”. More recent literature: W. Wickler, “Das Prinzip Eigennutz” Munich 1977 and J.R. Krebs and N.B. Davies, “Öko-Ethologie” Parey, Berlin and Hamburg 1981.

10. I presented a comprehensive overview of innate behaviors in animals and humans in: H. Hass 1987, Vol. 4. Major textbooks include: I. Eibl-Eibesfeldt “Grundriß der vergleichenden Verhaltensforschung” (Piper, Munich 1987) and K. Lorenz “Vergleichende Verhaltensforschung” (Springer, Vienna 1978).– Although modern textbooks tend to refer to “motivating factors” rather than drives and tend to omit any mention of key human drives, this is because most innate behaviors are composed of numerous individual drives. I provided an overview of the most important human drives for businesspeople and politicians in: H. Hass and H. Lange-Prollius 1978.

11. Such displacement activities and stereotyped movements are captured in candid time-lapse films in my film documentation “Wir Menschen” Progr. 12. Österreichisches Bundesinstitut für den wissenschaftlichen Film, Vienna.

12. Good evidence for this is that some innate instinct control mechanisms are not yet fully developed and functional at birth – as is the case in certain organs, for example (the sex organs). It was long thought that birds first had to learn how to fly. Then, a zoologist (J. Grohmann) raised pigeons in such tight cages that the birds were unable to flap their wings. When the normally raised “control” siblings had become adept fliers, he released the experimental birds. They immediately flew very proficiently. Therefore, the awkward attempts of young birds are not a learning process in the art of flying. Rather, the cell structures responsible for controlling movement are simply not completely developed at birth. They can only issue the innate commands once this is the case. For more information on the delayed maturation of controlling nerve structures, see I. Eibl-Eibesfeldt 1987.

13. The human brain became enlarged when our ape-like ancestors traded their arboreal habits for life in the savannahs after climate changes and steppe formation in former primeval forests. This led to an upright walking position that freed arms and hands for other tasks such as tool-making (see next Premise). The weight of the head could now be carried by the vertebral column, making the powerful back muscles superfluous; they gradually atrophied and the volume of the posterior and upper part of the head increased. For more information, see H. Hass 1987, Vol. 1, p. 172ff and Vol. 4, p. 112ff.

14. K.R. Popper aptly said: “The hypothesis dies instead of the organism”. K. Lorenz attributes human powers of imagination to the “spatial representation” developed in all higher animals. When a monkey leaps from branch to branch, it must “theoretically” determine in advance whether each leap is practically feasible. This ability may have given rise to the internal projection screen we term “fantasy”.

15. For the purposes of this book, which seeks to outline how the psychosplit arose and how we can overcome it, it is of little import whether the artificially created auxiliary structures we use to improve our bodies are viewed as “additional organs” or not. Those readers who take exception to such an interpretation should feel perfectly free to replace the term “additional organ” with “tool” or “aid”.— On the other hand, human progress is founded on such structures, and the functional affinity between organisms and businesses becomes clearer and simpler to understand.

16. K. Lorenz described humans as “specialists in the unspecialised” – which is diametrically opposed to the interpretation offered here. In the past, biology, in accordance with traditional views, has oriented itself according to the external appearances of organisms as our sensory apparatus perceives them. Evaluating the evolutive process from an energy-related standpoint forces us to look at things from a different perspective.

17. Thirteen advantages that additional organs give humans and that decisively influenced human development were mentioned: They need not be continuously supplied with energy. They are more easily repaired and replaced. They can be composed of virtually any material, even metals and a range of synthetic materials. They can be transferred to other persons without losing value. They do not die upon the death of their owners and can therefore be passed on directly to others. They can be put aside and do not burden the body when not in use. They are exchangeable, allowing versatile specializations. They make us adaptable. The individual need not produce them him- or herself, giving rise to all forms of industrial production. Communal organs arise that single individuals could never afford. Luxury organs, as the foundation for culture and art, become feasible. They can be created without altering the human genetic make-up, i.e. much faster. The instructions for their production and use are transferable through language.— There are even more advantages: Almost every direction in which humans develop can be attributed to this one, decisive step. Three further considerations. The additional organs free us from our species-specific constraints: The larger life structures we form can give rise to a virtually unlimited number of entirely different structures. Unlimited information transfer also becomes possible: inventions, such as those made by one company, can find application in completely different business sectors. Finally, money, which will be dealt with later, empowers us immensely, which in turn is a prerequisite for major investments (and also increases our risks enormously).

18. In the year of Darwin’ birth (1809), J.B. Lamarck published his then largely ignored two-volume “Philosophie Zoologique”, which presented the theory that all organisms arose from common ancestors. Both Lamarck and Darwin believed in the “hereditary transmission of acquired traits”. According to this concept, which would greatly simplify the explanation of how species arose, individual adaptations and improvements that an individual makes during its lifetime can be passed on to its offspring. A bodybuilding champion would therefore father children with a similar physique. Despite intensive experimentation, no hereditary mechanisms that would enable such a process were ever discovered. Additional organs, however, do precisely this: not only can new, learned behaviors be passed on to the next generation, but the ability to produce new organs can be “inherited”.

19. Compare remark 8

20. Another reason has also been forwarded to explain the particularly well-developed sexual drive in humans. The human child requires a very long period of care ("brood care") before it can survive on its own. Such lengthy parental care was inextricably bound to the father's ability to feed and protect the child. In our early ancestors, this apparently caused our sexual drive to take over functions other than reproduction alone, namely a role in partner bonding. The female was able to fulfil the male's sexual desires year-round and thus bind him more strongly to the family.

21. According to Hassenstein and Lorenz, such general tendencies fall under the heading of "appetitive behavior". In the case of feeding, this includes all innate actions and reactions that help detect, stalk, and overpower prey. The task is to optimize predatory behavior, to achieve the "consummatory" or "end" act, i.e. to devour the prey or parts thereof, with minimum risk, as safely and quickly as possible.

22. In 1909, the same year in which he received the Nobel Prize, Wilhelm Oswald, the founder of physical chemistry, published the book "Die energetischen Grundlagen der Kulturwissenschaft". Unfortunately, it received little notice. He was the first to draw attention to the central role of energy in all life processes, and also assessed business transactions from this perspective. Humans are superior to all other organisms, "through the amount of energy they amass and bring under their control."

23. Eibl-Eibesfeldt and I dealt with the phenomenon of the "socio-collapse" and the development of anonymous societies in larger cities – along with their many repercussions – in the book "Stadt und Lebensqualität" (Stuttgart 1985).

24. "IRM" is the abbreviation for "innate release mechanism". It functions by responding to a precisely defined set of stimuli known as "key stimuli" and then triggering the appropriate "fixed action patterns". For more details, see K. Lorenz 1978.

25. If the dogs were freed from the restraining frame, it turned out that the bell not only triggered salivation, but the entire sequence of predatory behavior, i.e. it triggered their appetitive behavior for predation. Additional experiments showed that virtually any neutral stimulus, if followed by a "consummatory" or "end" act, can be transformed into a "conditioned" stimulus, whereby the term "conditioned" stands for "conditioned through experience". This contrasts with key or "unconditioned" stimuli, that animals respond to innately, whereby the subsequent behavior is termed "unconditioned reaction".

26. Recommended reading for those seeking more information on the complex issue of conditioning is the excellent book "Instinkt, Lernen, Spielen, Einsicht" by Bernhard Hassenstein (Serie Piper, Munich 1980). Its many "circuit diagrams" illustrate the key interrelationships. K. Lorenz's "Vergleichende Verhaltensforschung" (1978, p. 230ff) presents an overview.

27. H. Hass 1987, Vol. 2, p. 97-110.

28. More information in J.B. Wolfe's "Effectiveness of Token-Rewards in Chimpanzees" (Comparative Psychological Monographs 12, 1936) and Th. Kapune's "Untersuchungen zur

Bildung eines Wertbegriffes bei niederen Primaten" (Zeitschrift für Tierpsychologie 23, p. 324-363). Colorful, round brass tokens were used as "money". The monkeys learned that they could receive food for certain tokens, whereas other tokens bought play sessions with the keepers, still others could be used to open the cage after being inserted into a slit in the door. It took time to earn and save enough tokens by strenuously working a mechanical lever. The monkey brain was capable of grasping this situation. The time-span between "earning" and "spending" the money was often considerable.

29. I first published the "semi-predator" concept in two issues of the Eco-Journal in the "Presse" (Vienna) under the title "Eigentlich ein Räuber" (30.10.81) and "Tausch statt Raub" (6.11.81).

30. Directly harnessing external forces can only supplement energy gain via photosynthesis, predation, or transactions. Viruses are an exception: as the most extreme of parasites they survive without any energy gain of their own. Their structure is such that cells, upon passive contact, begin to churn out new viruses. The origin of life is thought to have involved a similar process: In the hot primordial seas, energy-laden molecules could have combined into structures whose mutual interactions would have led to reproduction, initiating an autocatalytic process. A plausible model for this, the "hypercycle", was developed by the Nobel Prize winner M. Eigen. See Fig. 10.

31. Sociobiology, which produces comprehensive cost-benefit analyses for animal behavior, in particular predatory behavior, applies the term "optimal foraging strategy". This motivated me to coin the term "Optimal Bartering Strategy" or "Optimal Business Strategy" for the optimal approach to conducting business transactions.

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32. Marketing was already taught in American universities in the early 20th century and subsequently applied very efficiently by large concerns such as General Electric, Procter & Gamble, IBM, Eastman Kodak, Caterpillar and others. Marketing was originally a part of the "sales" sector, but gradually developed into a leading management concept determining overall company policy (Fig. 11). Peter Drucker considers marketing to be so fundamental that it cannot be interpreted as merely being "one of many functions". Rather, it is "business as measured by its ultimate result, i.e. from the perspective of the customer's advantage". Economic theorists refer to the "primacy of market orientation", although in practice this approach, which stands in stark contrast to the semi-predator concept, has met considerable opposition before gradually gaining acceptance in large companies. (compare remark 36)

33. W. Mewes "Die kybernetische Managementstrategie (EKS)", Frankfurt 1972-1976. This economic strategy is taught in the framework of a correspondence course (Mewes System, Im tierischen Hof, Frankfurt 1).— Many employees and businesses that adhere to EKS guidelines are members of the Leistungsgemeinschaft (EKS) e.V. in Frankfurt, which publishes a regular "information sheet". EKS seminars are offered at the EKS-Akademie in Obersulm near Heilbronn, Germany. Prominent proponents of the EKS include Dr. Josef Meier in Hergiswil, Switzerland, and Dr. Helmut Wiesler in Vienna, Austria. The relationship between business management, the Energon theory, and EKS was examined in detail by Ch. Wurl 1987.

34. Back in 1968, Peter F. Drucker wrote in his book, "The Age of Discontinuity" (Die Zukunft bewältigen): "In speaking of marketing, most businesspeople think of the systematic and well-planned organization of all work required to sell a product, to deliver it to the customer, and to receive payment. What businesses really need in times of rapid technological transition, however, is marketing with an entirely different connotation. The first thing we need is a marketing that views the entire company from the standpoint of its ultimate goal and legitimacy, i.e. from the customer's perspective... Above all, this means going beyond viewing the customer merely as the purchaser of "our goods". As long as your thoughts are still centered on "our product", you remain mired in categories belonging more to sales than to marketing. The crucial aspect is client habits, mores and expectations...". – In fairness, customer-oriented behavior in the business world was an insight occasionally espoused even by "old school" economic theorists. Yet such guidelines were only rarely put into practice. Why? From the ethological perspective my answer is: because theoreticians develop their theses in a "tension-free" environment in which drives play a negligible role. Insight and intellect can ruminate without outside pressure. In the real business world, however, suppliers encounter the key stimuli "customers" or "money" and the psychosplit directs their thoughts and judgment into unfruitful channels.

35. As early as 1967, B. Spiegel, in his paper "Der Nischen-Begriff in Ökologie und Sozialpsychologie" (G.F.M. – Mitteilungen 13, 3) analyzed the close relationship between competition gradients, environmental adaptation, territory delimitation, and niche control in both the world of organisms and business. The author presented the advantages of "gap-oriented behavior" based on clear correlations and practical examples taken from the business sector. The "patrx-matrix-relationship" he chose to describe competitiveness corresponds well with the "required versus actual performance profile" or the lock-and-key relationship discussed in the chapter "3rd Consequence".

36. Whereas individuals can very quickly reverse their focus and concentrate on customer interests, this necessary reversal apparently becomes increasingly laborious the more people are involved in the process, i.e. the larger a business and the greater the distance to the actual customers. Philip Kotler formulated this fact as the "law of slow learning" ("Marketing Management", Englewood Cliffs 1980, p. 11). Marketing "entered the hallowed halls" of large American concerns only against strong internal resistance. This underlines the influence of the psychosplit and the difficulty we have in following up on rational considerations against the dictates of our active predatory instincts. The basic concept of marketing corresponds quite well with the OBS guidelines.

37. In citing EKS case studies I stick to the original texts, which I have merely condensed here. The original versions are often interrupted by a series of closer considerations and analyses.

38. H. Hass 1986, p. 78ff.

39. This "straying from the path" corresponds with the "law of rapid forgetting" formulated by Ph. Kottler ("Marketing Management", Englewood Cliffs 1980, p. 13). Once market-oriented behavior was successfully introduced in large American corporations and the strategy increased profits, there was a clear tendency to overlook the marketing guidelines and to once again focus efforts on producing in order to sell. Companies that had focused on long-

term growth and had achieved significant successes, lost their market dominance by once again concentrating on immediate advantages and quick profits. (compare footnote 36)

40. Citations from H. Hass 1970, Chapters 3 and 5 (1987, Vol. 2, Chapters 4 and 5).

41. See W. Mewes, 1972-1976, lecture series 6 and 8.

42. H. Hass 1987, Vol. 1, p. 224-228.

43. H. Hass 1987, Vol. 1, p. 194.198.

44. Eibl-Eibesfeldt 1987.

45. A good overview on topics treated under the heading "self-organization" both in the inorganic and organic realms can be found in Erich Jantsch, "Die Selbstorganisation des Universums", DTV, Munich 1986.

46. W. Mewes 1972-1976, lecture series 10, p. 99-116.

47. Under the term "integrative thought", see F. Vester's "Neuland des Denkens", Stuttgart 1983, and "Unsere Welt – ein vernetztes System", 3rd ed., Munich 1986.

48. J.K. Gailbraith "Die moderne Industriegesellschaft", Munich 1968.

49. W. Mewes 1972-1976, lecture series 9.

50. H. Hass: film series "Wir Menschen". Österreichisches Bundesanstalt für den wissenschaftlichen Film, Vienna.

[51.](#) Biology refers to human development as "cultural evolution" and the radiation of professions as "pseudospeciation". According to the view propagated in this book, cultural evolution is an integral part of the evolution of life, and the radiation continues here in the form of professions and business sectors rather than species. H. Hass 1987, Vols 2 and 3.

52. V. Packard, "Die Pyramidenkletterer", Düsseldorf 1963.

53. The Japanese approach wherein companies hire employees for life has certainly contributed considerably to the country's economic success. Interesting details can be found in the writings of P.F. Drucker. Information on "holism" can be found in R. Mann's "Das ganzheitliche Unternehmen", Bern, Munich, Vienna 1988.

54. Teilhard de Chardin was one of the few who viewed the entire structural edifice created by humans – directly comparable with the organs of plants and animals – as "vitalized matter". See: H. Hass 1987, Vol. 2, p. 271-275.

55. In daily business practice the OBS corresponds fully with the ideal scenarios of the marketing sector. The numerous successes of the EKS, which so closely parallels the OBS guidelines, support the scientific-evolutionary justification of the OBS approach.

56. Numerous thinkers and writers, for example Voltaire, considered humans to be "beasts". Schopenhauer wrote, "Humans are fundamentally wild, horrid animals. We merely know them in a tamed and controlled condition known as civilization. Yet the occasional outbreaks of their nature strikes fear in our hearts." Nietzsche referred to humans as "animals that have not yet been cornered", which in two-fold manner corresponds to the transition from one evolutionary step to an entirely new one.

57. I treated the difficult issue of "happiness" from the scientific perspective in my "Naturphilosophischen Schriften", Vol. 4, Chapter 12.

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