



innovation
dipl. Natw. ETH
Adrian Nufer
Tösstalstrasse 14
CH-8400 Winterthur

kommunikation
tel: +41 (0)52 202 99 44
fax: +41 (0)52 202 99 43
mobil: +41 (0)76 334 26 13
e-mail: an@NUFERscience.ch

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● Dossier

The Plocher System and its environmental application

Synopsis

The **Plocher apparatus** has been developed by Roland Plocher from Meersburg, Germany. His method could be described as a **holographic information transfer**. The Plocher apparatus is used to endow carrier materials with active properties which **purposively** interfere with natural and technical processes. Products manufactured in such a way are ecologically beneficial. They are known as **penac** and are used all over the world.

penac is mostly applied in **agriculture** and **water treatment**. The varied products are administered in minimum dosage and optimize the breakdown performance of micro organisms or the interplay between the roots of plants and soil organisms. By using special **biocatalysts** even vast continental lakes may be cleaned up effectively!

Basic research concerning holographic data transfer is still in its initial stage. There is scientific evidence for the **functioning** of the Plocher System on the physical and biological levels, but up to now the phenomena could not be placed within a comprehensive scientific theory. Systematic research relating to **longterm performance** within ecosystems has not yet been carried out, either.

Because of the promising potential concerning the use of penac in environmental areas, scientific research as well as application of the Plocher System is to be deployed. The new techniques are to be applied and researched in a **test area** and the findings used for the development of new solutions in **environmental protection, conservation and technology**.

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1 Introduction

1.1 A chance for our environment

1.1.1 Limits of today's environmental protection strategies

During the nineties discussion concerning the environment has been pushed to the background of public interest, reason being the high costs of reconstructural measures and the lack of truly innovative ideas. Environmental politics was restricted to damage limitation and increase of efficiency within the existing technologies. Considerable improvements were obtained with certain processes¹, nevertheless this did not lead to an overall reduction of the impairment caused by environmental influences.

According to relevant findings the reason is to be sought in the use of technologies which do not conform with natural evolution. Hans Sauer (SAUER-SACHTLEBEN 1999) requires future technologies to manifest a holistic creativity which in a cooperative way fits into natural evolutionary processes.

This requirement can be met by a novel technology. To create the vision of a landscape with high quality living conditions brought about by careful environmental treatment, we here introduce a process which has been developed from this holistic point of view.

1.1.2 The Plocher System

In the eighties Roland Plocher from Meersburg on Lake Constance (Germany) discovered a process which up-to-now has not reached the publicity it deserves. In many years of independent research he developed the Plocher System, which introduces the novel principle of holographic information transfer for the activation of selfregenerating forces for the environment.

The name Plocher System comprises the Plocher apparatus, the relevant process and the penac products manufactured by it. The Plocher System combines minimum consumption of natural resources with maximum effectiveness of the penac products, which consist of chemically almost inert carrier materials applied in low-dosage. Their effectiveness lies in their information output, which can catalyse certain processes within the environment.

1.2 Scientific considerations

Scientific research into the Plocher System is still at the very beginning. Application of scientific methods is ensured as the process is not dependent on any place, time or person. Test results may be reproduced if certain additional experimental rules² are observed.

¹ e.g. high efficiency factor for heating systems in buildings, exhaust catalysts in motor vehicles, less pollutants in waters because of legal provisions concerning agriculture etc.

² Tests carried out with penac may lead to the transfer of information from carrier material onto placebo preparations. Consequently all utensils used in the trial for the placebo and the control methods must be kept well away from the informed materials.

The Plocher apparatus is used for manufacturing penac products. The inner construction of the Device hasn't been disclosed by R. Plocher yet. Scientific research is not hampered by this fact, though, as within approved research projects readings may be taken from the device at any time and test products with predeterminable properties may be produced.

As neither toxic nor otherwise hazardous substances or forces are employed, experiments on penac products may be carried out without any danger. Many farmers have been using penac for years without any detrimental effects. Nevertheless systematic tests concerning the longterm performance within environmental systems would be desirable.

Effectiveness and efficiency of application have been confirmed by experimental users all over the world. Due to the fact that the system cannot be satisfactorily explained without extending today's scientific theories and model conceptions, a real breakthrough in research has not yet taken place. That is why this documentation is only partly supported by systematically obtained scientific findings.

2 Operation

2.1 Holographic information transfer

2.1.1 The Plocher apparatus

Holographic information transfer is the key to the activation of natural self-regenerating forces in our environment. By the help of this process suitable carrier materials may be provided with active properties which do not belong to the chemical make-up of the carrier material.

Similar to the production of holographic pictures by help of laser technology (see table 1) a focused energy field which transfers the original information on to the carrier material is used by the Plocher System. This energy field is generated within the 8 metres high Plocher apparatus and is released from the bottom of the device in coneshaped form.

table 1: Comparison between laser technology and Plocher System

	Laser technology	Plocher System
Physicality of energy field	monochromatic, coherent electromagnetic waves	unknown
Evidence of energy	direct, e.g. via photo-cell or eye	indirect, e.g. by means of structural changes within the irradiated material
Information transfer	indirect, via interference patterns, by the overlapping of reference and object beams	direct, through the coneshaped energy field of the Plocher apparatus

The physical nature of the energy field has not yet been determined but does not contain any magnetic, electric, thermal or radioactive components. The field can easily be felt by sensitive people who then talk about a „tingling“ or „tickling“ sensation. Science is called upon to develop an objective testing method to prove the existence of the energy.

2.1.2 Information transfer and carrier materials

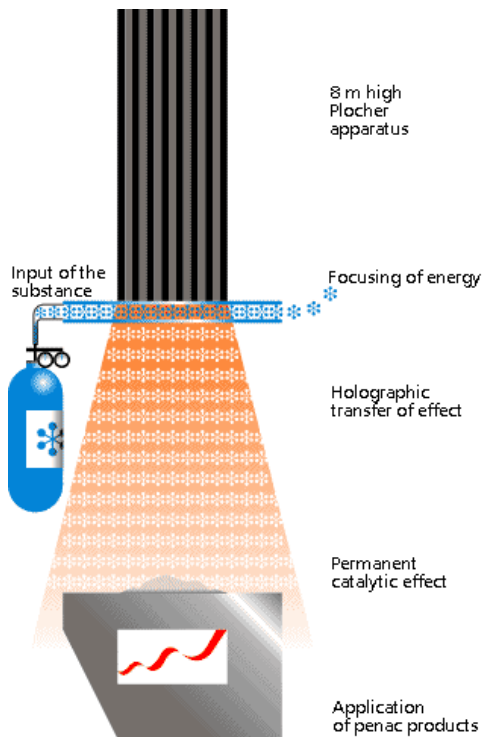


fig. 1: The information process

Aluminium, silver and gold are especially significant as carrier materials. The information may be transferred onto sheets of aluminium foil, which then are used for further production instead of the original information. Thus real oxygen is just needed once in order to provide any amount of stone meal with oxygen information.

2.1.3 Biocatalysts

In addition, so called biocatalysts can be constructed using metals as carrier materials. A tier built up of layers of informed aluminium foil, parchment paper and cotton becomes an active unit which can permanently impart its information to the medium surrounding the catalyst. The efficacy of this arrangement is several times greater than that obtained from informed stone meal.

The name **penac** stands for **plocher energy accumulator**. It refers to the ability to gather energy from space. The conclusion that has been reached so far is that the ability to effectively impart information is linked to the ability to take up energy from space. In this context one also speaks of activated carrier materials.

The transfer information is introduced materially into the outlet area of the device, right on top of the coneshaped field. If, for example, the information of oxygen is to be transferred onto a carrier material, a constant thin stream of oxygen from a cylinder will have to be directed between two panes of glass. Within 10 to 15 minutes this original information will be transferred holographically onto the carrier material below.

Suitable carrier materials are chemically more or less inert substances with wide active surfaces. Commonly used are finely-ground stone meals based on quartzit and calcium or magnesium carbonate. Equally suitable are cellulose, sugar or salts. The choice of the carrier material depends on the previewed area of application.

2.2 Catalytic activation of self-regeneration

2.2.1 Application: lake clean-up

Within the environment the carrier materials serve as catalysts for natural self-regeneration. They catalyse diverse processes in accordance with their specific information, i.e. if primed with oxygen information, aerobic processes will be triggered.

To illustrate this point let us take a lake, which has been rendered eutrophic by a surplus of nutrients from agriculture, household wastes and industries. The effect is an overproduction of biomatter, which, when decomposing, uses up all the dissolved oxygen in deep water. Lack of oxygen causes insufficient mineralisation, which in turn effects the build-up of sludge at the bottom of the lake. Even if the supply of nutrients is reduced³ the sludge still remains at the bottom of the lake and emits putrefactive matter and redissolved nutrients into the water.

Such a lake has tipped over, i.e. is completely out of balance and its system „remembers“ the eutrophic condition. Even if part of the cause were eliminated, the growth of algae, salmonellosis and fish mortality would still be in evidence. After holistically analyzing this szenario the question arises how to „remind“ the lake system of its former oligotrophic state.

That is where the Plocher System comes in. By the help of carrier materials that constantly provide the lake with the information of oxygen⁴, the aerobic condition on the information level superimposes the anaerobic one on the material level. The information „pollution“ is deleted and the lake „remembers“ its original state, which leads to the activation of the self-regenerating forces of the lake. Thus a situation is created which favours aerobic processes and rejects anaerobic ones.

This aerobic background assists the natural development of organisms, which are necessary for the purification of the lake and the transformation of the anaerobic sediments. Within a few years the measurable oxygen content of the deep water increases, the sludge decomposes and is eventually mineralised. Whether the additional oxygen needed for this process diffuses⁵ through the surface of the lake or whether it is generated by the decomposing processes themselves, has not yet been found out.

2.2.2 Consequences for scientific thought

Scientific conclusion resulting from the „model lake“ is, that the composition of the symbiosis of this lake is not only determined by physical (e.g. temperature) or chemical (e.g. oxygen content) parameters, but may be partly controlled by certain „information“ as well.

To explain this we will have to extend our concept of scientific thought by a further dimension. A first step would be the supposition that there is a non-material level within nature, which is holographically linked to the physical reality. This non-material level⁶ is capable of receiving information, of transporting it and make it effective within the physical reality.

³ caused by restrictive measures concerning fertilizers in agriculture, the ban of phosphates in detergents and the increased construction of sewage plants

⁴ "Oxygen" is the most important information in almost all applications of the Plocher System. Various other information is used in accordance with each particular case.

⁵ e.g. by a change in the equilibrium of diffusion caused by aerobic processes in deep water

⁶ this level could also be called the „consciousness of nature“

3 Application

3.1 Outline

The range of application for penac is varied. Due to its ability to catalyse both natural and technical processes it can be used extensively in restoring landscapes and in technical environmental protection. Areas of use are listed in table 2. Some new terms had to be introduced because of the novelty of the process.

table 2: Possible areas of use for penac

	Soil	Water	Air
The land	<ul style="list-style-type: none"> • agriculture • forestry 	<ul style="list-style-type: none"> • water ecology • vitalization of water 	<ul style="list-style-type: none"> • deodorization • avoidance of pollutants
Habitation	<ul style="list-style-type: none"> • recycling of waste 	<ul style="list-style-type: none"> • treatment of water 	<ul style="list-style-type: none"> • waste air purification
Industry	<ul style="list-style-type: none"> • soil restoration 	<ul style="list-style-type: none"> • treatment of sewage 	<ul style="list-style-type: none"> • amelioration of indoor atmosphere

3.2 The land

3.2.1 Agriculture

Today penac is mainly used in the area of agriculture with the aim to ameliorate soil properties. The use of oxygen information is of special significance in this case. Putrefactive processes in the soil are the main reason for its reduced functional capacity and the increased predisposition to diseases of the plants growing there (see HENNIG 1994).

Vegetable growth will be at its best if the symbiosis within the soil is activated and the mutual relation between soil organisms and roots of plants is enhanced. Suitable means of information for the catalyzing of these processes are oxygen, minerals and trace elements. Particularly important is the encouragement of the correct formation of clay/humus complexes in the soil by way of suitably processed organic fertilizers.

Organic fertilizers may be solid (manure, compost) or liquid (liquid manure). Both have to be composted before use which requires a suitable oxygen supply during the decomposition process. Use of penac is highly recommendable especially for the composting of liquid manure, as an adequate oxygen supply can be achieved with a minimum of effort⁷. Compared to this method technical ventilation would be far more costly. Proper composting of liquid manure also notably reduces unpleasant smells and loss of nitrogen.

⁷ 1.5 kg of penac-g (for liquid manure, carrier material CaCO₃ dissolved in water) per 100 m³ directly put into the manure pit, subsequently 5 g per LSU into the draining wells as a weekly dose applied by watering can

Further application within the area of agriculture is the optimizing of stable and pen atmospheres. Here again it is the putrefactive processes that cause unpleasant odours and reduced efficiency of the animals housed there. Specific feed supplements⁸ and compost activators⁹ for the bedding will be very effective in improving this situation.

3.2.2 Forestry

There are lots of problems in the area of forestry today which can be solved by the application of penac. Longterm pollution has rendered the forest soil acid and therefore impaired in its water balance. In many forests the soil may be compared to a dry sponge which cannot soak up water any more. This leads to an insufficient supply of groundwater for the top layer of soil which in turn has detrimental effects on the vitality of the trees.

With penac the top layer as well as the conditions for mykorrhizes can be improved in a simple and economically efficient way. The supply of nutrients for the trees is converted from nutritive salts taken from the air to higher molecular proteins, which not only will make the trees more robust but will leave the slopes more stable as well. There is a huge potential within this application, especially concerning mountain areas and avalanche protection.

3.2.3 Water ecology and vitalization

The effect of penac on water explains the process of information transfer in a model way. Water can take on various liquid-cristalline states, which have not been researched to their full extent yet. These states are based on the spatial arrangement of water molecules and the structure of their hydrogen bonds. Information about former water contamination may be stored holographically within this structure.

Application of the Plocher System affects this information and transforms the water structure itself, which is referred to as water vitalization. This process opens up a wide range of research possibilities. What makes research in this field difficult, is the subtleness of its effects which may even disappear altogether if the methods of research are not refined enough. The vast technical possibilities opened up by the holistical understanding of the dynamics of water movement have been investigated by Viktor Schaubberger (ALEXANDERSSON 1976).

Water processing by the help of the Plocher System consists of two processes that complement each other: water vitalization and the input of useful information. In terms of thermodynamics¹⁰ vitalization is connected to energy and information to entropy. This also is a promising starting point for the development of a theoretical model concept explaining how the Plocher System works.

A very significant application of the Plocher System is the holistic restoration of inland waters. Agriculture is one of the main pollution sources for lakes, streams and rivers. The combination of balanced nutrients, preventive measures against putrefactive processes and the build-up of a humous top layer of soil may largely help to reduce the negative effects, the increased activation of self-regenerative forces within the waters would still be very important, though.

⁸ penac-t for animals on the basis of CaCO₃, 50g per ton of fodder

⁹ penac-k for compost on the basis of CaCO₃, 40g per m³ manure or compost

¹⁰ The two main principles of thermodynamics are referred to here. Concerning the Plocher System one should not start out to contemplate closed systems. Consequently the information input could be interpreted as a reduction of entropy or as „negentropy“.

Regarding lakes and ponds the application of the Plocher System is already well-tested, although there do not yet exist any official scientific tests that would confirm the findings which are not always of the same quality, either. This fact would call for exact concomitant tests in order to obtain good results. In rivers and streams the Plocher System does not produce the desired results, as an efficient vitalization system for fast flowing waters has not been developed yet. Such waters do however benefit from the restoration of lakes.

The Plocher System may further be used to optimize the purification processes of sewage plants. For instance, special information input may trigger denitrification processes. Parts of the processes can be simplified and energy-consuming aeration systems replaced by bacteria activity. To check all these possibilities a testing-plant would be needed where the appropriate research could be carried out.

3.3 Residential districts (Habitation)

3.3.1 Waste water treatment

We already have mentioned the possibilities for optimizing the waste water treatment in sewage plants. Further application of the Plocher System is feasible within the general concept of the processing of waste water in residential districts. The water in toilet cisterns e.g. could be provided with special information for the pre-composting of faeces, which would lead to a reduction of smells, to a reduced workload in sewage plants and, possibly, to less cleaning work in drainage systems.

Equally good application possibilities are there for households which are not on main drainage. Compact devices ensuring smell-free composting could be developed for house sewerage and the waste water processing of agricultural enterprises. Another possibility would be the development of aquacultures combining waste water treatment, fish farming and the cultivation of plants. These ideas have already been discussed by scientists and tested in small businesses. The contribution of the Plocher System is its purposive influence on bacteria processes.

3.3.2 Water conditioning

The conditioning of drinking water has become increasingly important. The main problems in this area are pathogenic bacteria and excessive nitrate contents. Another problem is the development of boiler scale due to the high lime content of the water in certain regions. In all these cases the Plocher System can bring about substantial improvements.

Undesirable bacteria can be effectively suppressed by providing the water with suitable information, causing sterilizing methods¹¹, which reduce the water vitality, to be rendered unnecessary. This application is of particular importance for developing countries.

High concentration of nitrates brought about by nutrients from agriculture and being passed on into the groundwater may lead to the formation of toxic nitrite. A bit of research work on biocatalytic effects could develop a bacteria denitrification process well able to efficiently reduce high nitrate contents.

¹¹ commonly used are chlorination, ozonisation and UV-radiation

Reduction of boiler scale is a well-tested application which entails considerable cost saving. By using a catalyst¹² with oxygen information the tendency of calcarious crystals to turn into scale is slowed down, persistent sediments are reduced and the water becomes noticeably softer. This effect, called the stabilization of hardness, renders conventional decalcification plants¹³ unnecessary. In addition the insides of water pipes will be permanently protected by a thin calcarious coating (patina).

3.4 Industry

Application of the Plocher System within the area of industry is without end. Most promising are the recycling of pollutants and deodorizing. Smells due to putrefactive processes in purification plants may thus be effectively reduced. Concerning air purification installations could be introduced, that wash pollutants out of the air by the help of water and dissimilate them by using biocatalysts.

4 Research

4.1 Basics

4.1.1 Holistic understanding of science

Successful research depends on the scientific philosophy behind it. The Plocher System is based on a holistic point of view, which means, that we will have to check the holistic understanding of contemporary science. (see fig. 2)

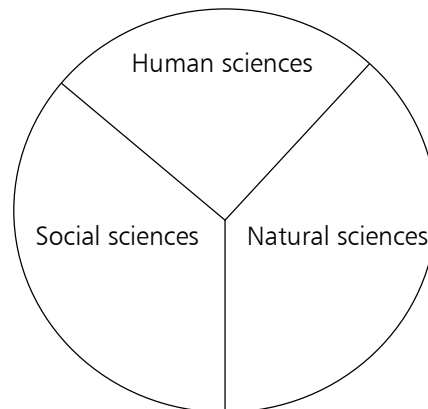


fig. 2: Scientific holism according to disciplines

¹² Application of penac-kat to vitalise drinking water. The appliance does not need electricity or maintenance and is simply clamped onto the waterline. Its effectiveness can be proved by microscopic examination of calcarious crystals.

¹³ So called salt plants which make use of ion-exchange-resins to exchange calcium for sodium have become a cause of increasing environmental pollution because of their extensive use of salt.

Natural science is the only „hard science“ as such. Social science ranges from „hard“ to „soft“ according to the statistic verification of its findings. The mystic element is found in human science only. All three sciences together constitute the totality of scientific concepts. In the academic world this model is expressed in the branching of scientific disciplines.

The Plocher System cannot be satisfactorily placed within this branching. The reason for this lies in the mystical element embodied within the model. To solve this problem we would need a scientific understanding which encompasses totality without the mystical element. A dualistic approach, e.g. on the physical level, would do the trick. (see fig. 3).

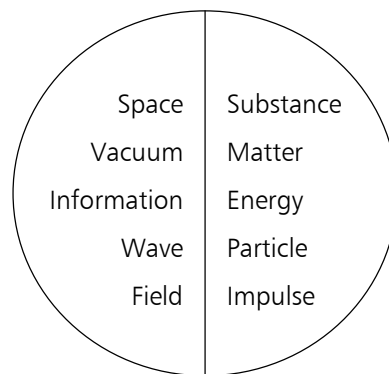


fig. 3: Dualistic approach to scientific holism

This model makes use of dualism, which is well known from quantum and wave mechanics. To consider energy and information as equal and complementary is a very new approach, though. The mere existence of the Plocher System leads to far-reaching scientific conclusions as has been pointed out before. The kind of research proposed here is placed at the border of the material to the non-material level, i.e. between energy and information. It requires a corresponding openness concerning experimental practices and new findings.

4.1.2 Theoretical studies

Research into the Plocher System has to face the fact, that penac is widely used and is functioning in varied fields of application, but has not been recognized in official scientific discussion yet. It is the chicken and the egg problem all over again. In order to do research an official proof of the effects has to be furnished which in turn requires preliminary research work.

The authors of scientific fundamentals that form the basis for R. Plocher’s developments, have not yet been of any importance in official debate. Besides Viktor Schauburger (ALEXANDERSSON 1976) Wilhelm Reich (REICH 1994), Nikola Tesla (TESLA 1997) and Karl Freiherr von Reichenbach (REICHENBACH 1850) should be mentioned.

Wilhelm Reich¹⁴ (REICH 1994, p.128 ff), for instance, describes the insights needed for the construction of a biocatalyzer under the label of „Orgon accumulator“. The Plocher System nevertheless is a completely new development and cannot be derived from available references. Therefore information gained there must be carefully checked before being applied to the Plocher System – otherwise it will lead to faulty conclusions and cause confusion.

¹⁴ Reich based the effectiveness of this design on the alternative activities of organic and inorganic materials. The organic material takes up „Orgon energy“ from the atmosphere which is then reflected on the inorganic layers. The tiers of layers produce a resonance which enhance this energy.

4.1.3 Effect transfer

One unique aspect of research on penac products is their ability to transfer effects, which means that the effective properties of informed carrier materials are transferred to its surroundings. A glass, for instance, which once contained an informed product, is able to transfer those properties to the next substance, even after having been thoroughly cleaned. To prevent this from happening, extra, carefully labelled containers and utensils must be used throughout the experiment.

Additionally there may be an effect transfer via the air surrounding the products and their operational areas. Therefore it is vital to keep distances of at least 2 m (10 m for larger objects) between penac tests and control measures. Placebo tests with penac are tricky, as there will be the danger of an unwanted effect transfer from penac to placebo. Special attention must be paid if penac or test objects that have been treated with penac touch water or metal. Especially water carries information very fast and over great distances.

The properties of test utensils generated by penac only wear off after a few weeks. This process may be speeded up by storing the utensils in metal cabinets for approximately one week. It is therefore advisable to maintain electrostatic test conditions.

4.2 Research concept

Research into the Plocher System presents a challenge for science, industry and politics and could be an important contribution to an effective method of dealing with our environment. This kind of research will only be viable if it is broadly supported on all scientific levels. Table 3 shows the most important areas.

table 3: Overview of research concept

	Colleges	Professional Schools	Firms
Institutions	<ul style="list-style-type: none"> • universities • technical universities • research institutes 	<ul style="list-style-type: none"> • engineering colleges • high schools and other secondary education 	<ul style="list-style-type: none"> • private research institutes • spin-off firms
Projects	<ul style="list-style-type: none"> • basic research • theoretical models • long term research 	<ul style="list-style-type: none"> • process optimizing • product development • efficiency review 	<ul style="list-style-type: none"> • proof of effects • feasibility studies for innovative products

4.2.1 Basic research

Basic research initially should be restricted to acceptable proof of the efficacy of the Plocher System. For this standard procedures may be employed, provided t no effect transfer is involved. Most promising are measuring methods that react to structural changes in carrier materials and various kinds of bioindication¹⁵.

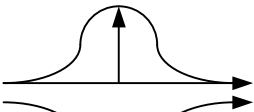
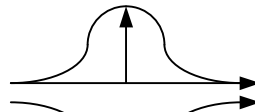


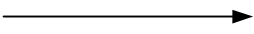
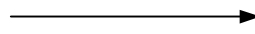




¹⁵ Bacteriological tests are the most efficient by far. The effects of oxygen information on a test medium can be measured by the changes in proportion of aerobic and anaerobic bacteria.

The Plocher System is meant to optimize existent conditions, therefore we have to distinguish between quality and quantity proofs of effect¹⁶. Quantity effects are only possible, if the conditions allow themselves to be optimized in a natural way. If the initial situation is already at its best, though, further optimizing will lead to quality improvements, which can only be proved by the help of accordingly refined methods.

If the reproducibility of the effects is ensured, the next step will be the direct research into biocatalysts and how they take up energy and release information. To do this new measurement methods will have to be developed and/or existent methods adapted to the task in question. By the same token theoretical models will have to be developed that can plausibly explain the effects in their context.

In order to evaluate the benefits for people and environment and to rule out any contingent indirect damages, longterm experiments will have to be carried out. Faulty information does not really affect applications of the Plocher System because of the holistic working principle. Beside the Plocher System there are other methods that are based on information transfer. Table 4 shows their different ways of interference compensation¹⁷ when faulty information is used.

table 4: Different ways of compensating interference in methods of information transfer

	Plocher System	Others (e.g. homeopathy)
Initial position: the sustainable development is disturbed by interference factors	interference 	interference 
the correct information compensates the interference		
result:		
faulty information cannot compensate the interference		
result:		

4.2.2 Technology transfer

Systematic tests for the determination of the effects of different information, their combination and their interplay with the carrier materials used are very important for the research. A huge task, as all chemical elements, as well as complex organic and inorganic compounds may be the source of information.

¹⁶ Plant tests disclose the right measuring range: yield tests are only practical if the growing conditions allow themselves to be optimized; if they are at their best already, tasting tests may show the improved food quality of the plant.

¹⁷According to official scientific circles homeopathy is ineffective – still, if used in the wrong way, it can over/undercompensate interferences, thus triggering negative effects

The relevant data could be filed to provide information clusters¹⁸ and carrier materials for the different applications at short notice. This knowledge then would form the basis for a controlled application of this new technology. It is also a prerequisite for the technology transfer from Plocher to science and to spin-off firms.

4.2.3 Operation and product development

At professional schools and in spin-off firms the results of the research could be converted into applicable and marketable processes and products. This has great potential as there are many problems in the area of environmental technology that want to be solved.

4.2.4 Efficiency review

Research into the Plocher System as well as its application has to be combined with an up-to-date scientific and political efficiency review, in order to avoid bad investment and faulty developments.

4.3 Test area for longterm research into and sustainable application of the Plocher System

Because of the far reaching influences of the Plocher System on landscape ecology, the system should be investigated within a test area. Best would be the area bordering a lake. Restoration of lakes can in any case not be carried out without simultaneously optimizing the agricultural and forestry processes of the drainage area. At the same time the application of the system could be tested in sewage plants and the whole experiment could be finally turned into a comprehensive research project.

¹⁸ Successful restoration of a lake, for instance, would require the use of different information according to the specific needs.

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