A physicist's view on the Messiah-Machine of Daruish al Khoos

by Harald Kautz-Vella

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Abstract:

Since some time the author observes the development of new energy technologies. Comparing the most promising free-energy-inventions all over the planet one comes to the point that recently a new source of energy is discovered. Most of the analysed inventions seem to base on the same physical effect: the interaction between neutrino-radiation and systems of high molecular order. Here two different concepts occur: a part of the devices creates molecular order by electromagnetic induction, other systems use the natural order that occurs in vortical flow in fluids or plasmas. Depending on the specification of the devices this either leads to thermal effects and/or to self-strengthening phenomena.

By the following article the author wants to introduce plans of a major power plant that uses selfstrengthening phenomena in vortical flow of water to generate electric energy. Especially the newest research from Russia proves that such a system could work. One of the Russian institutes involved is interested to find western partners to develop a working device based on the described system.

The article first gives a technical description of the device, analyses it from the point of hydrodynamics and describes the most important molecular, electro-dynamic and electro-gravitational effects expected to occur. The author thought it might be important to mention the unusual biography of the inventor at the beginning – and he hopes the reader will take that specific part of the story with humour.

Technical description

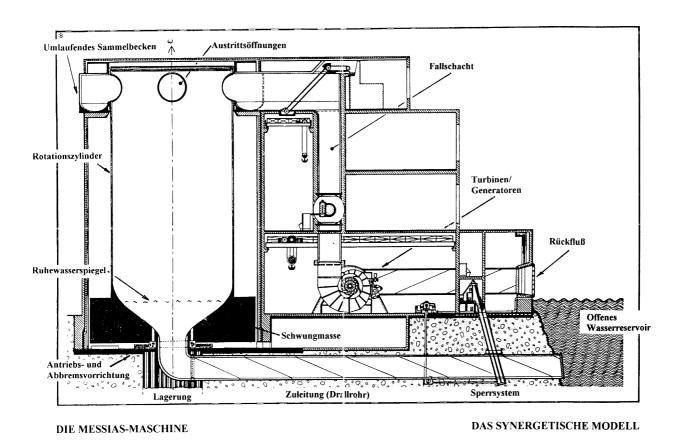


Figure 1: The Messiah-Machine as described by its inventor Daruish al Khoos

The sketch above represents a vortex power plant able to produce a high amount of electric power out of self strengthening phenomena in turbulent vortical flow. It was introduced as a theoretical concept by a Syrian Muslim who claimed to be the Messiah; having received the machine as a vision. The machine is already described in the Holy Quran, where it is supposed to be a kind of entrance card to paradise (on earth) – which will reopen its door after the return of the Messiah at the beginning of the third millennium. In the vision Daruish al Khoos saw a kind of sea water tornado developing in a huge upright standing, rotating iron cylinder. By bringing mankind this water-technology he wanted to save planet earth from self-destruction. As regards the size of the machine he was very precise: 50 meters in diameter, 8 revolutions per second. Daruish al Khoos died in December 2001. In the following essay I want to describe all the phenomena, which science could expect to appear in the described machine.

¹ Achmed A.W. Khammas: Der Messias mit der sanften Technik, SPHINX-Magazin, Schweiz 1976.

In means of mechanics the machine is a simple way to lift water and let it flow down again. The big iron cylinder is set into rotation. The water that flows through the pipe into the cylinder gains speed and forms a vortex flowing up the cylinder. It naturally needs energy input to get it running. The surface of the water forms a paraboloid. At a certain speed the water stands just beyond the upper edge of the cylinder. If the system is accelerated further the water will flow over the edge. What we have to invest from this point onwards is the potential energy needed to lift a certain amount of water against the force of gravity and the kinetic energy that is bound in its tangential speed. Both potentials can be recuperated with a high efficiency; either by shifting the flow downward or by transferring the kinetic energy back to the cylinder with the help of a centrifugal turbine. The water falling down gains speed and flows on sea level into a turbine, where the energy is transformed into electric power.

Further has to be taken into account:

- The loss of energy through friction in all mechanical parts,
- through friction between cylinder and water in the phase of acceleration of the water
- and the friction in the water itself, in the turbulent flow.

The speed of rotation is not dependent on the total size of the machine however dependent on the proportion of height and radius and the precise form of the cylinder.

What makes the system interesting is the friction in the water. Science observed many cases² of negative friction and other anomalies in vortical flow, which means, that under certain circumstances a vortex converts thermal or other energy forms into kinetic energy. Prof. Victor Starr subsumed many of those phenomena in the book "Physics of Negative Viscosity Phenomena", which attracted some attention in the year 1969.

Hydrodynamic description of the system

² You can excess a list of essays about abnormal phenomena in vortical flow under http://www.abfalltechnologien.de/vortex.htm.

³ Victor Starr: Physics of negative Viscosity Phenomena, New York 1969

Water follows the rules of hydrodynamics. The best-investigated system that resembles the Messiah-Machine is the <u>Taylor-Couette-System</u>⁴. It consists of two independently rotating cylinders with water (or other liquids) in between. The cylinders can rotate in the same direction or in opposite directions, with variable relative speed.

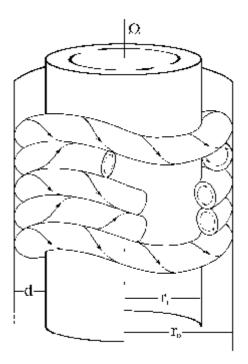


Figure 2: Typical turbulent flow in the Taylor-Couette-System

The outer cylinder in the Taylor-Couette-System is similar to the cylinder of the Messiah-Machine; the surface of the water at a defined height inside the machine resembles the inner cylinder of the Taylor-Couette-System. From the point of view of a water-molecule passing the Messiah-Machine the speed and radius of the inner Taylor-Couette-cylinder is continuously raised. The Taylor-Couette system shows – depending on the variable speeds and sizes – quite a number of different stable types of fractal turbulence. The size of the smallest whirl in this fractal structures is called the Taylor-micro-scale. For the size of the Messiah-Machine one would expect a <u>certain form</u>⁵: it looks like a twisted transparent rope swirling up the cylinder wall in a vortex. Experiments with open cylinders

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⁴ An excellent overview on the recent Taylor-Couette-research at: http://www.couette-taylor2001.nwu.edu/ct/program.htm

⁵ Arne Schulz: Verzweigungen und Strömungen zwischen unabhängig rotierenden Zylindern. Dissertation zur Erlangung des Doktorgrades in der Mathematisch-Naturwissenschaftlichen Fakultät der Christian-Albrecht-Universität zu Kiel, Mai 2000. Download: http://e-diss.uni-kiel.de/diss_370/d370.pdf

like the Messiah-Machine under low Reynolds-Numbers show that there is a good correlation to the phenomena observed in the Taylor-Couette-System.

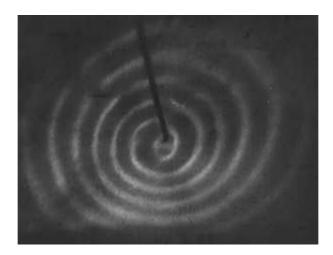


Figure 3: Inner view of a fast vortical flow with the typical turbulence looking like a twisted rope. Picture by: <u>Vortex Oscillation Technology Ltd</u>⁶.

The inventor of the Messiah-Machine says: build a big one, otherwise nothing serious will happen. This is where we come to the importance of the Reynolds-Number:

 $Re = 2r \times v^{\circ} \times ro/nu$

Re = Reynolds-Number v° = averaged speed of flow r = radius [m] ro = density nu = viscosity [Pa x s]

According to the size of the Reynolds-Number, or size of the machine, there are three different things to be taken into consideration:

a) At low Reynolds-Numbers there is a transfer of energy from high scales to low scales of the fractal system. The cylinder slows down; the kinetic energy passes from the smaller scales to the smallest, where it dissipates in heat. The concept of

gaining kinetic energy out of processes in the smaller scales makes no sense at all. At high Reynolds-Numbers the system partly inverses, an increasing amount of energy is transferred from small to high scales by merging swirls. This is called an inverse cascade⁷. In principle a transfer of energy from thermal, electro-dynamic, molecular, atomic or subatomic processes is thinkable, as long as they become part of the fractal structure or communicate, transfer energy to a part of the fractal order. But the quota of the inversed energy – referring to hydrodynamics – is negligible compared to the normal process of dissipation. Nevertheless the phenomena of inverse cascade was used by Prof. Victor Starr to explain the phenomena of negative viscosity.

- b) At https://www.high.nic.google.com the size of the Taylor-micro scale is reduced. That means that with an increasing size of the machine the "system of order" reaches down closer to the size on which molecular processes happen. If you think of the size advised by the inventor, which means a diameter of 50 meters, you will reach a tangential speed of 3.25 times the velocity of sound and an enormous Reynolds-Number. As long as you think in terms of hydrodynamics that doesn't mean a lot. Because even at high Reynolds-Number there are still at least three decimal powers between the Taylor micro scale and the size of a molecule. Only if you receive a total order down to the size of molecules according to hydrodynamics there might be models thinkable in which for example thermal energy is transformed into kinetic energy and transported through the scales onto the highest scale, which is the vortex itself.
- c) All analogue Systems in nature, hurricanes, <u>tornados</u>⁹, <u>deep-sea-tornados</u>¹⁰, <u>magma</u> <u>convection</u>¹¹, which run under high Reynolds-Numbers, show in their specific attitudes

⁶ You can find more about Vortex Oscillation Ltd. at http://vortex.viptop.ru/

⁷ Axel Brandenburg: The inverse cascade and nonlinear alpha-effect in simulations of isotropic helical hydrodynamic turbulence. Nordita (Copenhagen) und University of Newcastle, May 12 2000. Online under http://online.itp.ucsb.edu/online/astrot_c00/p_brandenburg/

⁸ Kolmogorov A.N. 1941 "The Local structure of turbulence in incompressible viscous fluid for very large Reynolds-Numbers", Dokl. Akad. Nauk SSSR 30. Translated by V. Levin. Reprinted in Proc. R. Soc. Lond A 434, 9-13. (1991).

Wallace Luchuk: The Tornado From An Aerodynamicist's Point of View. Online under: http://www.cafes.net/wallytul/ttheory.htm.

A.H. Nielsen, H.J.H. Clercx, E.A. Coutsias: Vortex evolution in forced 2D bounded flow. Report: BALANCE 2002, Balance in Atmosphere-Ocean Dynamics, American Geophysical Union 2002 Spring Meeting, Washington Convention Center, Washington, DC, US. Official website: http://www.fluid.tue.nl/users/neven/bal01oce.html

Vgl. S. Li, D. Montgomery and W.B. Jones, JPL (1996) vol. 56, part 3 pp. 615-639.

Vgl. H.J.H. Clercx, S.R. Maassen and G.J.F. van Heijst, Phys. Fluids (1999) vol. 11 pp. 611-626.

self-organisation, and as a result of inverse cascading self-strengthening – which speaks quite optimistically for the concepts in the Messiah-Machine. In addition, high-Reynolds-Number-systems with electro-conductive fluids lead to self-induction¹² and create strong electromagnetic fields. Here also two cascades appear, energy cascading toward larger scales and enstrophy (the square of vorticity) cascading toward smaller scales. For a mathematical simulation of those phenomena our computing is still to slow.

Summary in terms of hydrodynamics

According to the present state of knowledge in hydrodynamics self-strengthening in the Messiah-Machine cannot be accounted for ¹³. Although the mechanism of inverse cascading is known, there still is this difference in size of at least three decimal powers in between the Taylor-microscale and the water molecules. All the energy that might come back to the highest scale by inverse cascading has to be invested before by dissipative processes. Apart from this the loss of kinetic energy through the normal dissipative processes is much bigger than the inverse flow of energy ever could be. The idea of Prof. Victor Starr herewith seams to be disproved.

Now turning to the problem that school physics still is unable to explain the negative-viscosity-phenomena observed: Usually a theory which neglects observed phenomena is simply imperfect. At the time the theory was developed a useful simplification had been done which established itself through the years as a rule. When science comes to observe more complex systems, this simplification leads to serious problems in the correct description of nature by the theory. Normally a solution to the problem is a specification - just as Einstein's theory of relativity specified Newton's Mechanics. Nobody would say, Newton was wrong.

Therefore what one has to do is to check which simplification might have been done in the mathematical description of turbulent flow. Due to the fact that school physics out of

¹¹ R. Stieglitz, U. Müller: Kann man das Erdmagnetfeld im Labor simulieren? Forschungszentrum Karlsruhe, Institut für angewandte Fluid- und Thermodynamik, Wissenschaftliche Berichte, FZKA 6223.

¹² Brandenburg, A.: 2001, "The inverse cascade in turbulent dynamos", in Dynamo and dynamics, a mathematical challenge, ed. P. Chossat, D. Armbruster, and O. Iuliana, Nato ASI Series, Kluwer Publ. (in press) astro-ph/0012112

unintelligible reasons failed to develop a mathematical description of the processes in vortices, I would like to introduce somebody out of the field of New Science: Dipl. Ing. Wilhelm M. Bauer¹⁴ spent his whole life with the exploration of vortical flow in macroscopic, atomic and subatomic systems. Unfortunately – although he had a sound knowledge of school physics – his colleges out of intelligible reasons ignored his work.

I would advise everybody who studied Physics or Mathematics to study the work of Wilhelm M. Bauer. For laymen I tried to subsume his research and the theory he built in the following review.

- The flow of energy and order in universe builds a closed circle composed of dissipative and anti-dissipative systems. The dissipative processes are described correctly by school physics. The anti-dissipative processes occur in ideal vortical flow. This means that vortices above a certain Reynolds-Number reverse the 2nd main principle of thermodynamics: they create order.
- The development of a vortex passes three stages. In the first stage a "potential swirl" develops, whose description is identical with the statements of the Taylor-Couette-research. In the second stage the flow resistance is reduced towards zero. There is a significant difference between vortices produced by pressure and vortices produced by suction. Nature normally works with suction, under pressure the second stage can not develop. Inverse cascading can lead in this stage to a slight self strengthening. In the third stage a new inner turbulence layer develops, called Vazsonyi-layer. It looks like a slightly twisted roller bearing. According to Bauer this layer develops with the onset of self strengthening due to the law of conservation of angular momentum. The matter in this layer cools down, the thermal energy is transformed into kinetic energy.
- The energy budget of a vortex is regulated according to Bauer through oscillations.

 Parts of the vortex create oscillations and emit energy, other parts of the vortex collect the emitted energy through resonance phenomena.

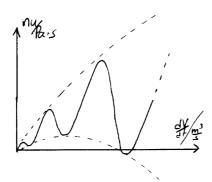
¹³ This conclusion comes from a extended dialog with scientists out of the field of non-linear physics and hydrodynamics. To mention a few: Christian Hoffman of the University of Saarbrücken, Prof. Bruno Eckhardt, University of Marburg, and Dr. D. Volchenkov, University of Bielefeld.

¹⁴ Wilhelm M. Bauer: Die Welt der Wirbel und Atome Bd. 2 & Bd. 2. Der wissenschaftliche Nachlass von Dipl.Phys. Wilhelm Bauer. Delta pro Design und verlag GmbH, Berlin 1997. ISBN 3-980 5355-2-5.

- Apart from the known energy forms Bauer assigns to vortical flow a vortex-energy; this energy is a kind of potential energy adhered to all mater, which is released when matter assumes the ideal shape of a vortex.

In the context of the Messiah-Machine there are three different theses, which conditionally might enrich the knowledge of school physics. Furthermore they are covered by the results of other scientists; particularly by the work of Victor Schauberger¹⁵, who is considered to be one of the most important pioneers of vortex science:

a. That the viscosity of a liquid in a vortical flow is not dependent on the subject matter only, like taken for granted in hydrodynamics, but also on the state of motion and on the pressure distribution in the vortex. The following illustration shows the relationship between volumetric flow rate and loss through friction as measured by Victor Schauberger in the early thirties. It clearly shows the resonance-points including the first one delivering a negative viscosity. The rest is up to your imagination.



Figgure 4: Results of Victor Schaubergers research.

- b. That from a certain Reynolds-Number it comes to the development of an inner layer of turbulence, which has not been described by the Taylor-Couette-system, probably because of the small size of the experiments in the laboratories. The few pictures shot in the inner tube of a tornado show the form of the slightly twisted roller bearing, whose evacuated axis twirl around like a curtain.
- c. That the energy budged of a vortex is regulated by oscillations and resonance phenomena. At this point I would suggest to study the work of Evgueni

¹⁵ Franz Pichler: Victor Schauberger and the Turbulence of Water. In: Olafur Eliasson: Surroundings Surrounded, ed. Peter Weibel, ISBN 3-928201-26-3, 2001

Sorokodoum, who did some research about the interaction between oscillations and vortical flow. Last time I saw him in Moscow he managed to speed up a "storm in a teacup" up to 250 meters per second tangential speed – using oscillations only.

Interaction on atomic scale

Before I will continue to build theory I would like to involve some facts about the molecular structure of water.

The molecular formula of <u>water</u> is H₂O. The water molecule is a dipole. But in reality water consists of H₂O, OH⁻ and H₃O⁺ who permanently exchange H⁺ -lons. The ions tend to build Clusters, which means that they build chains and more complex structures of up to 50 molecules. They hold together through dipole forces and Van-der-Waals forces (Two molecules build a bridge over a H⁺-lon). The clusters are permanently destructed and rebuild¹⁶. For normal hydrodynamics the molecular structure of water is irrelevant because of the big difference in size between the taylor microscale and the molecules. I would like to mention three observation out of different fields:

- In homeopathy you shake water periodically to create longer, more stable clusterchains, which carry specific information in their inner wave structure.
- In alternative systems built to improve water quality vortical flow is used to generate stable, highly energised clusters-chains. The inner friction of the water in those systems is unexpectedly low.
- If you add small amounts of synthetic polymers to water the friction in turbulent flow is reduced down to 20%.

Hypotheses: in water passing the scales of a vortical flow the clusters tend to arrange themselves along the streamlines – especially in between uniform rotating whirls, where the shear-forces are high and most of the energy is dissipated. This is a question of

statistics: the probability for the dissociation of a cluster lying transverse to the streamlines is much higher than for a cluster lying parallel. This phenomenon occurs only if the vortex is formed by suction, which means when the parallel flowing cluster-chains are stretched during acceleration

The areas where uniform rotating whirls touch create most of the loss through friction. A reduction of the bond strength inside the water in these areas would have an super proportional impact on the inner friction of the whole system. Exactly this seams to apply: The cluster-chains are bound by "springs" holding together by dipole as well as Van-der-Waals-forces. In a right angle there are no binding forces active in between neighbouring clusters. The clusters can slide along each other with comparable low friction. Clusters remember, especially if you remind them periodically. The thermal energy in the water is transformed more and more into the longitudinal part of the vibes of the chain.

The water is "energised" – to use a word out of alternative physics -, which is creating a higher stability of the clusters as well as a further reduction of friction. The hydrodynamic quality of the water changes radical, because according to its inner friction it looses not only its dipole- and Van-der-Waals-forces but also parts of the temperature-depending share of its viscosity. The clusters are able to slide along each other exactly in those areas, where normally motion dissipates in heat. If you think that out, it means: if the entire thermal energy would be bound in the longitudinal wave forms of stretched cluster-chains of infinite length, the water would react as a H⁺ plasma at a temperature of 0 Kelvin, without freezing. The viscosity, which still is taken as a constant dependent on the subject matter, would tend to zero. The Reynolds-Number would tend to infinite. The Taylor-micro scale would tend to zero. The enstrophy cascading would form smaller and smaller scales. The amount of water organized along the streamlines would increase until the system reaches a state of total fractal molecular order.

This would be a school physicists description of the 2nd stage of development of vortical flow in water as described by Bauer– with the small specification that at high Reynolds-Numbers viscosity is not dependent on the subject matter only.

With this specification it is thinkable to create a total fractal order down to the molecular size tapping the thermal energy of the water, transforming it into kinetic energy, which is transferred by inverse cascading to the motion of the entire vortex.

¹⁶ Martin Chaplin: Water structure and behaviour. Official Website of the South Bank University, London, UK:

With commencing self strengthening the development of the Vazsonyi-layer is imperatively. The phenomena is known from nature. It develops in Tornados, in the magma rollers responsible for the earth magnetic field. To the mathematical description of the Vazsonyi-layer introduced by Bauer I have nothing to ad.

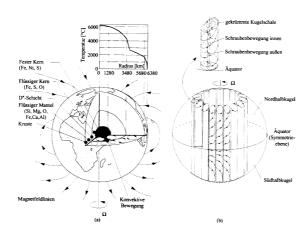


Figure 5: The magma rollers responsible for earths magnetic field. Figure by Forschungszentrum Karlsruhe¹⁷.

Elektromagnetic effects

As you can see in nature vortices in the 3rd stage described by Bauer show interesting electromagnetic effects: the earths magnetic field is self strengthening and in tornados occur a number of electromagnetic effects, which are in part self made, in part conditional upon meteorological phenomena.

It is difficult to observe a tornado without effecting humans and technical equipment. So I would like to introduce an invention, which imitates a part of the electro-dynamic structures of a tornado: the Searl-Generator, which has been rebuilt and successfully tested this year by Godin and Roschin in Moscau. First of all there is a self-evident geometrical similarity to the Vazsonyi-layer.

http://www.sbu.ac.uk/water/

¹⁷ R. Steglitz, U. Müller: Kann man das Erdmagnetfeld im Labor simulieren? Forschungszentrum Karlsruhe, Institut für angewandte Thermo- und Fluiddynamik. FZKA 6223, Karlsruhe 1999.

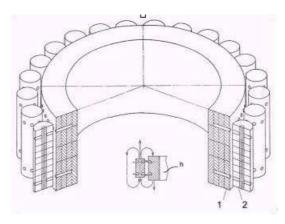


Figure 6: Technical drawing of the Searl-Generator by Godin and Roschin.

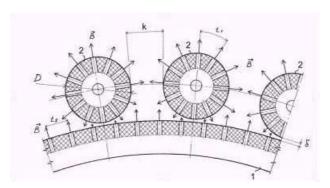


Figure 7: Formation of the Magnets in the Searl-Generator.

If you assume an electric potential between clouds and earth, Ionisation of the air and drifting of the electrons away from the centre of rotating matter by centrifugal forces — which is valid for the tornado as a whole and for the Vazsonyi-rollers in particular — you achieve a pattern of circular motion of positive Ions. The magnetic field lines generated in the cycling air point in radial direction from the centre - of the rollers and of cause of the tornado itself — which is precisely the electro-dynamic structure shown by the Searl-Machine. Let's see what happened in Moscow:

The device was started by the electric motor, which accelerated the rotation of the rotor. The revolutions were smoothly increased up to the moment the ammeter included in a circuit of the electric motor started to show zero or lower value of a consumed current or even a presence of the back current. The presence of the back current is detected at approx. 550 rpm. The magnetic moving sensor 14 starts to detect the change in weight of the whole installation at 200 rpm. Afterwards the electric motor is completely disconnected by the electromagnetic muff and the ordinary electro-dynamics generator is connected to the basic shaft of the device through the same muff. The rotor of the converter continues to self-accelerate and with the approach to the critical mode of 550 rpm, the weight of the device quickly changes. In addition to the change speed of rotation the weight depend of the power, removed into active load, (the set of ten ordinary electrical water heaters of 1 kW was used) and of the applied polarizing voltage, as well. At the maximum output power equal to 6-7 kW the change of weight G of the whole platform (total weight is about 350 KGs), reaches 35 % of the weight in an initial condition G?. A load of more than 7 kW results in a gradual decrease of revolutions and exit from the mode of self-generation with the subsequent complete stop of the rotor. The weight of a platform can be controlled by applying of a high voltage to cellular ring electrodes located at a distance of 10 mm from external surfaces of the rollers. Under the high 20 kV voltage (electrodes negative pole) the increase of taped power in circuit of the basic generator more than 6 kW does not influence G while the revolutions per min is not decreased to 400 rpm. "Tightening" of this effect is observed as well as the effect of hysteresis on G (a kind of "residual induction"). The experimental diagrams given on Fig.4 illustrate the modes of the converter operations. 18

If this analogy is not a coincidence one could come to the conclusion that a tornado doesn't lift roofs and cars only by wind power but also by an anti-gravitational field. Especially for waterspouts this theory seams to make sense: the effect of suction in a water column, how strong it ever might be, is limited to a height of 10 meters. As far as I know ascending air currents of sufficient speed to lift tons of water are not described in the context of waterspouts.

There is one more interesting analogy between the Searl-Generator and the Messiah-Machine: the residual angular velocity of the Searl-Generator lies at 550 revolution per minute, which means about 9 revolutions per second, which is pretty close to the value mentioned by Daruish al Khoos concerning to the angular velocity of the Messiah-Machine.

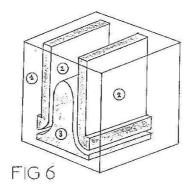
Which electro-dynamic effects one would expect in a water vortex is not easy to say. There is some research done findable under the keyword MHD, which means magnetohydro-dynamics. To get an access to the basic electro-dynamic qualities of water I would like to introduce a device based on the Biefeld-Brown-effect.

Biefeld-Brown-Effect

The Biefeld-Brown-effect¹⁹ signifies that charged capacitor-plates are accelerated in the direction of the positive charge, without discharging, without power-consumption. The effect increases when the capacitor is asymmetric (either showing a small and a big plate, or a not-constant gap). This effect was ample studied by Jean Claude Lafforgue – regarding to real capacitors as well as in the patent FR2651388²⁰ according to dipolar fluids under the condition of electrical fields of different geometries.

¹⁸ V. V. Roschin and S. M. Godin: Experimental Research of the Magnetic-Gravity Effects. Abstract: Institute for High Temperatures, Russian Academy of Science. Online at: http://www.rialian.com/rnboyd/godinroschin.htm

19 7. Alexandre Szames, *L'Effet Biefeld Brown*, vol. 1, 1998.



Figgure 7: from the patent FR2651388 - Isolated systems self-propelled by electrostatic forces by Jean Claude Lafforgue

2 and 3 are capacitor-plates, 1 represents the surrounding dipolar fluid. The lines of the electric field are bended. As a result of the Biefeld-Brown-effect affecting every single molecule arranged along the electric field-lines the water is accelerated and flows through the system. Additionally, because of the geometrical limited flow rate the whole device in figure 7 is accelerated²¹ in the direction of g.

It is tempting to say: turn Lafforgues device upside down and you get a slice-plane of the Messiah-Machine. The capacitor-plates are simulated by the self-induced migration of the electrons and the constitution of a resulting electrical field, the water in the Messiah-Machine is a dipolar liquid... So it should produce a vertical anti-gravitational force lifting the water – just like in the Searl-Generator.

But let's try to take it a bit more sophisticated: The water in the Messiah-Machine indeed consists of a huge amount of one way or another ordered dipoles. Each dipole acts as a small capacitor. If you look at the process of order-creation in the Messiah-Machine there are two mechanisms thinkable:

- A serialisation of the dipoles caught in the cluster-chains along the streamlines
- A serialisation of the dipoles along the lines of the self-induced electric field.

The first mechanism should occur as described above in-between uniform rotating whirls. The question is if there is not only a mechanical orientation of the cluster chains but also a electrical orientation of the dipoles. This again is a question of statistics: it might occur if clusters accelerated in the direction of general flow are more stable than clusters trying to

²⁰ Patent and underlying knowledge about the Biefeld-Brown-effect on dipolare fluids at: http://www.terra.es/personal7/dafero4u/FR2651388/FR2651388.htm

move against the general direction of flow. The result would be an acceleration of every whirl in the entire system, no matter on which scale, in the direction of flow by the Biefeld-Brown-effect.

The second possibility might only be of interest under low Reynolds-Numbers, if the self-induced electric field is strong enough to influence the water-molecules inside the "eyes of the tornados", inside the Taylor-micro-scales.

According to school physics the Biefeld-Brown-effect is caused by neutrino-collection. The strength of the Biefeld-Brown-effect periodically fluctuates according to T. T. Brown in cycles of hours, days and seasons of the year²².

Dr. Alexey Savchenko from DM TOR in Moscow tried to modify Vortex-Gas-Pipes to make them run on water²³. Usually in Vortex-Gas-Pipes air is blown at high speed tangentially into one end of a long cylinder. Inside the cylinder a gas vortex is created. The outlet at the other end takes place through two thin pipes, one located in the centre of the pipe, one at the margin. In-between the two outlet pipes there is a difference in temperature of 100 $^{\circ}$ C.

The same device run on water delivered analogue to the vortex-gas-pipe a separation of temperature and in addition the device accumulated thermal energy tapping an unknown source; compared to the power-input of the pump the degree of efficiency alternated after starting the device between 120 and 200%. During the operation of the device the over-unity-effect alternated in a damped sinus of a wavelength of 1 hour, levelling off at 160%. The over-unity-effect seams to be correlated with the Biefeld-Brown-effect. Especially the sound sinus, that can't be caused by any characteristic of the device itself, portends on cosmic periods. Receiving the over-unity-effect as thermal energy makes sense: in the context of the relevance of the Reynolds-Number it was posited at low Reynolds-Numbers kinetic energy would not be transferred onto the highest scale, but would dissipate in heat. But even in this device one can observe the formation of cool zones in the centre of the vortex (Vazsonyi-layer?). In principle the conversion of heat into motion seams to be possible.

The temperature effect in Vortex-Gas-Pipes are presently explained by adiabatic expansion. Due to the fact that the effect also occurs in water, which is not compressible,

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²¹ Watch it running at: http://jnaudin.free.fr/lfpt/index.html

Report: Russ Anderson: A Review of Modern (1988-2000) Biefeld-Brown Effect Replication Experiments. Antigravity conference 2000 in Reno, NV. Online: http://www.darlabs.com/ag_con2/eghistory.html International Conference: Prospects for Conservation and Development of Unitary Planetary Civilisation. Moskau May 26-31, 2002. Report: Alexey Sevchenko/DM-TOR.

other models of temperature-distribution have to be taken under consideration. In this context it has to be mentioned that in this device a stationary cylinder was used, which might have lead to an unnecessary dissipation at the margin of the tube.

Another device that has to be taken under consideration in the context of the Messiah-Machine is the PAGD/IVAD-technology²⁴ by the working couple Paulo and Alexandra Correa from Canada. The technology is based on an effect well known since the beginning of the last century: if you apply a voltage and give a surge on a evacuated gastube it leads to anomalous discharge reactions which deliver more energy than one needs to trigger them off. While this observation outlived the century as a scientific rarity, Paulo and Alexandra Correa managed to pulse those gas-tubes making them deliver up to 2KW free energy. Interesting in concerns of the Messiah-Machine is the fact, that the released electrons form a vortex, a current-tornado whirling through the tube. Because of the high viscosity of the electron-plasma the system has a very high Reynolds-Number – and shows some of the effects expected in the Messiah-Machine – in particular self-strengthening by interaction with neutrinos. Analogue to the device of Alexey Savchenko the power output of this technology varies periodically.

Cold fusion

At the Technical University in Berlin Alexander Kern constructed a system to improve water quality, based on a geometry similar to the Messiah-Machine. The machine worked with a high speed of rotation and a small radius. The binding of oxygen to the water was much stronger than in systems where air is blown through the water. After 8 hour of operation he measured about 20 grams of different metals produced inside the system. These metals definitely where not part of the machine, which was entirely built out of iron and ceramics. Apart from that at a certain speed the system "shoot back" and destroyed the pipes leading to the central element, no matter which material he used²⁵. It could be possible that he created a cold fusion reactor based on vortical motion. Personally I didn't

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²⁴ P.N.Correa, MSc, PhD, and A.N. Correa, HBA: POWER FROM AUTOELECTRONIC EMISSIONS. (EDITED EXCERPTS FROM "ADVANCED COMMUNICATION ON A NEW POWER TECHNOLOGY", LABOFEX DEVELOPMENT REPORT S3-001)

Online:http://www.globalserve.net/~lambdac/ListContents.html

²⁵ Interlocution with Alexander Kern.

see the machine but the research was made at the Technical University under sound conditions.

Assume the system develops a total order down to the size of the water molecules: At a speed of 3.25 times the velocity of sound we have to talk about a plasma, a highly ordered pattern of energy, in which processes in-between all scales are possible. Visualize long, stretched, parallel flowing cluster-chains, with H⁺-lons rotating around the cluster-axis. In this model it is thinkable that H⁺-lons swirl and smelt together to Helium or Atoms of higher order. This would be no normal fusion, which emits radiation. The transmission of the energy would be a soft integral part of inverse cascading of energy. The gained energy would be available at the end of the cascade as kinetic energy. Of cause this is wild guess, based on some shady experiments and my own visual fantasy. Nor is this vision compatible with school physics, where the atomic core is understood as a conglomeration of particles instead of a pattern of energy-waves. But you might put some attention to the theories of Wilhelm M. Bauer, which are based on the wave-character of atomic cores. In his opinion the main obstacle in the development of cold and hot fusion is the high profile of electrons in between the atomic cores. If you look at the migration of electrons inside tornados in the Messiah-Machine this problem might be solved en passant. This part of Bauer's work has been discussed to say the least controversial. But one has to admit that out of his wave-model of the atomic core he successfully calculated the spectral lines of hydrogen – which school physics can't till this day.

Discussion and prospects

Considerations about the impact of the cluster-structure and cluster-serialization on the behaviour of water lead to postulates, which widely correspond with the three-phase model of Bauer (attained by observation of nature) and with new research done in Russia:

 in the first phase described by Bauer it comes to a partial order of the clusters along the stream-lines. The Biefeld-Brown-effect, as far as it occurs, leads to temperature effects, like measured by DM-TOR. A slight self-strengthening through the Biefeld-Brow-effect might occur only on the highest scale of the turbulent structure.

- In transition to the second phase the inner friction of the water is reduced towards zero. The total volume of the water gets organised. Above a certain Reynolds-Number inverse cascades might tap some kinetic energy from the smaller scales.
- The molecular processes developing in the Vazsonyi-layer during the third phase remain unexplained.
- It seams to make sense to replace the idea of a vortex-energy introduced by Bauer in aid of the model of neutrino-collection.

Although there can be no warranty for the occurrence of self-strengthening in the Messiah-Machine, because there are no experimental data about water-systems of this size, it was possible to show, that in principle the effects predicted by Daruish al Khoos are possible, and that due to the comprehension of the Biefeld-Brown-effect they do not stand in opposition to the 1st and 2nd law of thermodynamics.

The utilisation of the Biefeld-Brown-effect to gain thermal energy already is reality. In addition many minor negative viscosity phenomena have been observed. It seems that the concept of Daruish al Khoos unerring points to conditions, which to a great extent benefit the conversion of tapped neutrino-power into kinetic energy.

When Daruish al Khoos received his vision 30 years ago he was a simple farmer, an illiterate with no education in physics, mathematics or engineering. What amazes most is the exact accordance of his concept to the knowledge in the field of new physics:

- His concept relies on succion instead of pressure as a driving force (cp. Schauberger).
- His concept envisions a continuouse flow of water through the system, which makes sense according to possible thermo-kinetic effects.
- He spoke about the importance of the total size of the machine (and of a certain number of revolutions) which corresponds to Hartmut Müller's global scaling theory.
- The specification of a certain size corresponds to keep it simple stupid with the fact that there are hurricanes, tornados and whirlwinds, but nothing in between that manages to create this particular form of self organisation, stability and self strengthening.
- The speed of rotation advised (8 revolutions per second) aligns with the maximum speed of the searl-generators, giving the highest gravitational effect. The value of 5 revolutions per second, advised by the global scaling theory, is identical with the

speed of rotation at which the searl-generator gives a maximum output of kinetic energy. The value of 8 revolutions also correspondes with the Schumann-Frequency (7,83 Hz), the electromagnetic wave standing between the ionosphere and the surface of the earth.

In my opinion it is impossible that all this fits together by accident. This man has seen something we should give our best attention to.

The most fruitful approach out of the field of school physics is to explain the observed phenomena as an interaction between vortical flow and background neutrino radiation. But there are some approaches in the field of new physics, which seem to be more farreaching. A first theoretical step would be comparing the observations made with the theories of Wilhelm M. Bauer, Hartmut Müller (Global Scaling Theory)²⁶ and Konstantin Meyl²⁷ (Scalar-Waves). The three of them certainly have to contribute a lot to the matter. And their mindset is anchored in school physics. Conformable as well with the idea of the Messiah-Machine is the Atomic-Vortex-Theory²⁸ of the American quantum-physicist Derek Bond. He assumes our reality to be a narrow spectrum of all existing energy-frequencies. We don't realize the other frequencies because normally they don't interact with our reality. With one exception: in vortical flow, which acts as a transformer station through resonance phenomena in harmonic series. Maybe it is possible to come to an uniform nomenclature and mathematical description in the theoretical framework between Bauer, Müller, Meyl and Bond.

With the world-view of Derek Bond the story closes a bit in a circle – because it corresponds with the mystic knowledge of mankind. God, our souls and for all I care even the soul of the Messiah would have plenty of space on the higher frequencies. The vortical

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²⁶ Hartmut Müller : Gravitation ist ein allgegenwärtiges Medium. raum&zeit 104 (März/April 2000) 34-39. Hartmut Müller: Global Scaling - Die Quelle der Raumenergie ist erforscht! raum&zeit 106 (Juli/August 2000) 34-50.

 ^{34-50.} Konstantin Meyl: Potentialwirbel, Bd.1 Diskussionsbeiträge zur naturwissenschaftlichen Deutung und zur physikalisch-technischen Nutzung, basierend auf einer mathematischen Berechnung neu entdeckter hydrotischer Wirbel. Indel 1990. ISBN: 3-9802542-1-6.

Konstantin Meyl: Potentialwirbel, Bd. 2. Vorschläge zur Neuinterpretation des atomistischen, des materialistischen und des naturwissenschaftlichen Weltbildes auf der Grundlage elektromagnetischer Wirhel

Konstantin Meyl: Elektromagnetische Umweltverträglichkeit, 2 Tle., Tl.2. Freie Energie und die Wechselwirkung der Neutrinos. Indel 1999. ISBN: 3-9802542-1-6.

²⁸ Derek Bond: Atomic Vortex Theorem of Energy Motion. Director - Theoretical Quantum Physics Division, Quantum Astrophysics Division, SDAI LABS La Jolla, California. Officiell website: http://members.tripod.com/~SDAI_labs/AVT8.html.

gadgets like the ear-concha and the DNA are responsible for the communication of living matter with those higher realities.

I would like to complete this assay with an quotation of Daruish al Khoos, which nobody should forget when he is dealing with the Messiah-Machine: "If you build it install good brakes!"