OSCILLATIONS MORE EFFICIENT THAN ROTATION

AN INVENTION POSSIBLY GREATER THAN THE WHEEL

ENERGETIC SUPERIORITY OF A PENDULUM VERSUS A WHEEL IN STATIONARY MACHINES

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WIDE USAGE OF THE ROTATION, MAINLY IN THE FORM OF A WHEEL, IS DEEMED TO BE THE BEST SOLUTION, WHICH EVEN NEW CONSTRUCTIONS ARE ASPIRING TO USE. HOWEVER, LAST YEARS SOME EXPERIMENTS HAVE ACHIEVED GREATER EFFICIENCY WITH USAGE OF OSCILLATORY DEVICES.

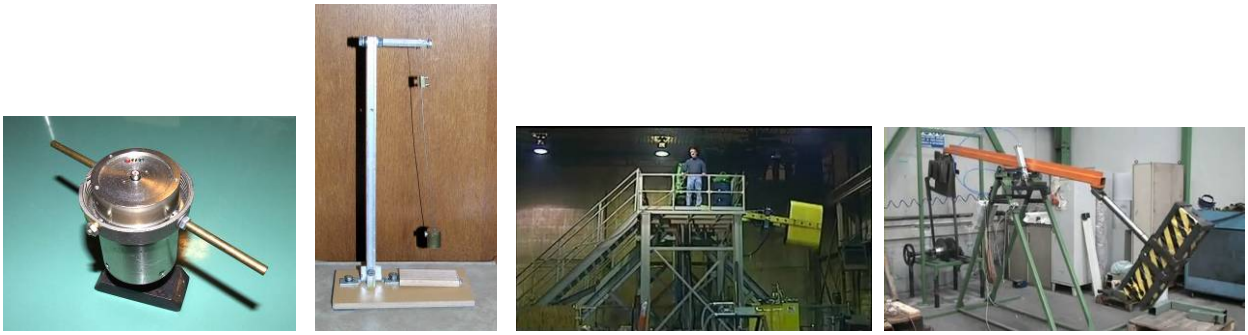

Figure 1. New experimental proof for superiority of the pendulum – the usage from a toy to a plant

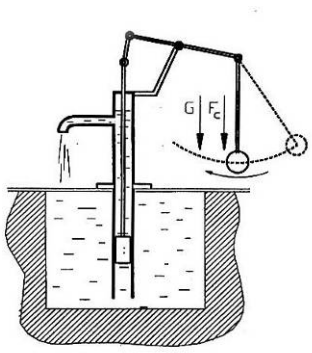

Figure 2. Water pump with a pendulum is only one of possible usage of driving pendulum.
"Energy Globe Award 2011" for the pendulum pump.

As relatively new researches are in the question, it is useful to look back on primary usage of the wheel and the rotation. By examination of historical and technical books, it can be concluded that form of the wheel was used for a long time as a toy or in a stationary way, and much latter, step by step, in transportation. According to encyclopedic issue "*Illustrated History of Inventions from the Wheel to the computer*" [1] on page 125 it is said:

> *"Spinning wheel, distaff and spindle which maybe originate from 6500 B.C.E, on Middle East and in Europe."*

However, it can be assumed that in that period and even earlier, similar form was used in rites and sometimes as a toy.

Reconstruction of predecessor of a wheel from pre-historical period: **rotation around shaft** (used materials: wood, reed, bamboo, bone, horn, ceramics...)

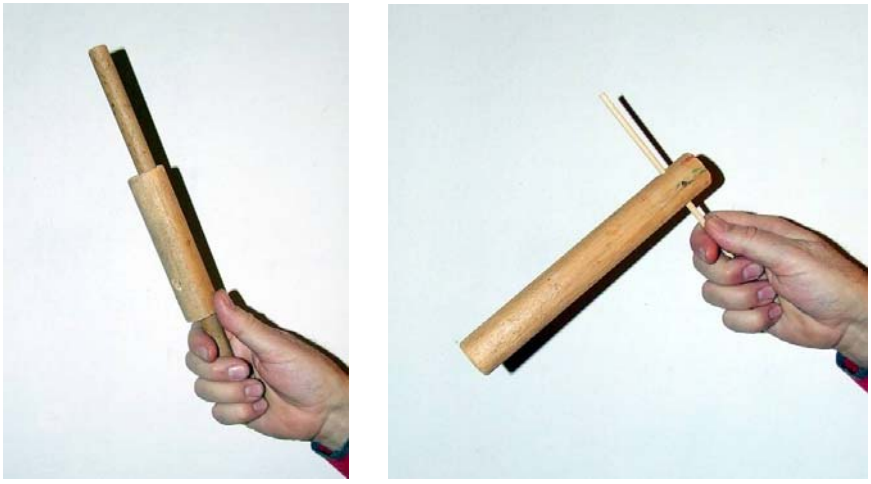

Figure 3. Reconstruction of toys, ritual accessories,
and perhaps useful apparatuses for flattening and rolling of clay, skin, dough etc.

Contribution to performed reconstruction can be quotation from above mentioned "Eureka" (page 12) that:

> *"In Mexico before Columbus, there was the wheel, but as children's toy. There is no evidence that it was in practical usage by big civilizations in North, Middle and South America. Various civilizations of Indian, Mayas, Aztecs, Incas were without the wheel."*

[1] Thames and Huston, *Eureka: An Illustrated History of Inventions from the Wheel to the Computer*, London, 1974

Key discoveries on page 219 of the same encyclopedia, reveals following facts about the wheel:

> *"It seams that we should not believe in intentional invention of "wheel" as abstract conception, applied in all forms of circular movement. In Antics this circular movement was used a lot as horizontal movement, as in the case of a spindle or a drill or in the case of pottery turning table or a wheel... Vertical wheel like one applied in the traffics perhaps didn't become only in one place in earlier civilizations of Mesopotamia."*

In Egypt, because of the usage of Nile as water road, carriage vehicles were not used until XVII century B.C.E "when two-wheeled cart together with horses were imported" (page 220)

According to *Encyclopedia of Technique* "The wheel is most important man's technical invention". [2]

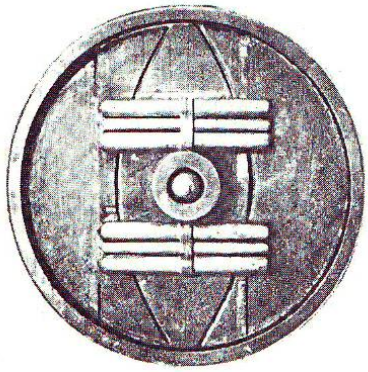

Figure 4. Display of one carriage wheel from Ur (Mesopotamia III millennium B.C.E.)

Stationary usage of the wheel, maybe even before it was used in transportation, can be perceived through primary usage of a mill (the stone) for grounding of wheat on manual drive.[3]

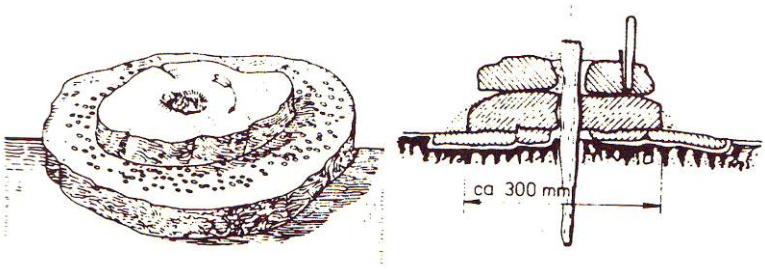

Figure 5.

[2] Narodna knjiga, 1984 (page 12), title of original is: *Tehniken*, Focus International Book Production, Stockholm, 1982

[3] Radenko Gajic, *Svet hleba*, Novi Sad, 2007 (page 18)

Similar affirmations about this thesis are present in capital book *Past Worlds – The Times Atlas of Archaeology*, where this encyclopedia – gives information about the ancient usage of the wheel and the rotation.[4]

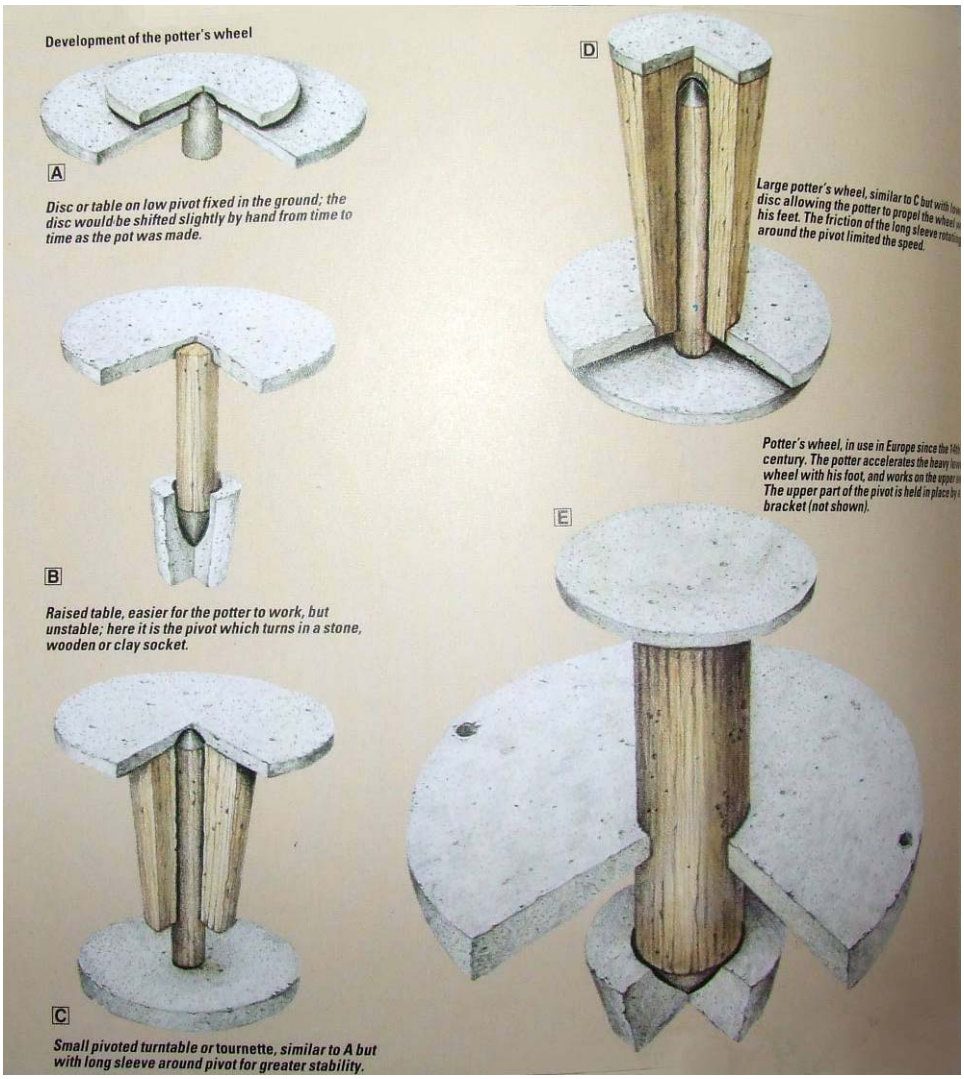

Figure 6.

Some emptiness had existed in technology development (without the wheel in the transportation) as well as in construction of Egyptian pyramids nearby Giza, between years 2650 – 2550. B.C.E. and in great civilizations of Maya, Aztecs, Inca. Even greater emptiness is possible in the present development unless we envisage the superiority of oscillations in comparison to rotations in various fields of techniques.

[4] *Past Worlds – The Times Atlas of Archaeology,* Times Books Limited, London, UK, 1988 (page 100-101)

The becoming of such a thesis has happen after many years of experimentation, consultation, popular papers published on internet. Separated down are some special opinions about the invention:

> **Peter Lindemann, D.Sc.**: "*...This certainly ranks as one of the most important discoveries in science in the last 300 years.*"
>
> **prof. Velimir Abramovic, Ph.D.**: "*...The double oscillator is also the best mechanical analogy of the alternating current, even better than Tesla's analogy...*"
>
> **academician prof. Bratislav Tosic, Ph.D.**: "*...It is estimated that the input of gravity in the performance of biphase oscillator is around 80%...*"

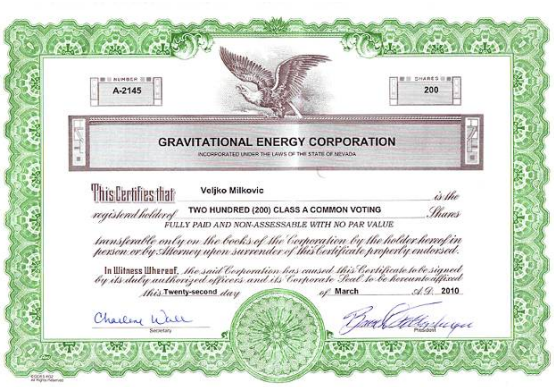

Figure 7. Reward to Veljko Milkovic from US company "Gravitational Energy Corporation"

Last years, duration of rotation was examined for various kinds of wheels, flywheels, disks, gears and belts due to inertia.

Novi Sad, Novo naselje

Petrovaradin, Preradovic street

Figure 8. Water pumps with massive wheel – flywheel from cast iron: rotation lasted 2-3 seconds.

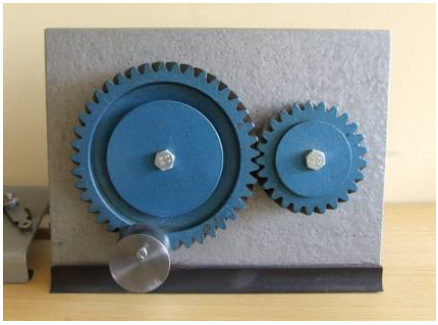
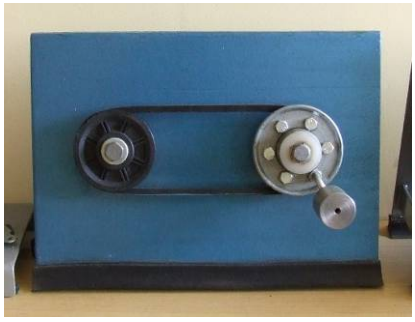


Figure 9. Transmission and reduction gears: rotation lasted 1 - 2.5 sec.

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Figure 10. Flywheel with mass of 20 kg: rotation lasted 1 min. - 1 min. 12 sec. VEMIRC Pendulum Lab



http://youtu.be/6ZfamxrIQgU http://youtu.be/NW7wKg6OSFg http://youtu.be/q4Tc1U1Tg34

Figure 11. Video demonstrations from internet: various wheels from rollers, motorcycles, and bicycles... with steel and ceramic bearings – rotation lasted from 6 seconds – 8 minutes.

The shape of the wheel should not be accepted as the best solution because oscillations of a pendulum lasts much more time, and we will examine it next.

Experiments with a Pendulum

Figure 12. Mechanical hammer with a pendulum

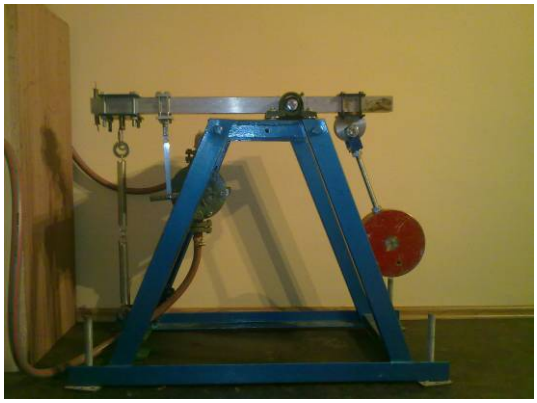

Figure 13. Water pump with a pendulum

Pendulum weights 0.4 – 12 kg with steel ball bearings – oscillation has lasted from 20 min. to 2 hours and 10 min.

VEMIRC Pendulum Lab

Figure 14. Improvised models with flat wire 0.5 -1 mm – elastic pendulum

Oscillations lasted from 2 - 9 hours with weight of 0.7 - 1.8 kg.

Further improvement is in the process – know how.

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Notes for models with a pendulum: All trials were performed without the usage of new technologies, but mainly by recycling of old materials. Therefore, significantly better results can be expected by the usage of new materials and technologies i.e. ceramic bearings.

The call is open as well as preposition for all interested parties to perform re-examination and expertise of superiority of the pendulum in comparison with the wheel in the case of stationary machines.

Besides that a thesis can be envisaged about filling up emptiness in development of techniques by application of a driving pendulum, new mechanical ideas can accomplish development in other areas of the science and the technology.

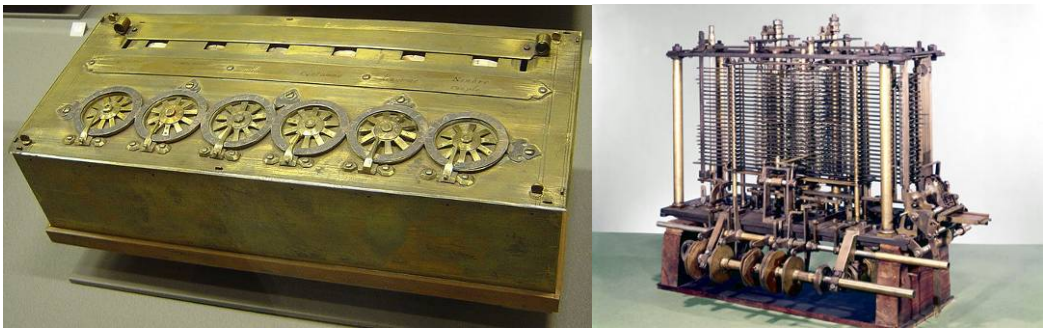

Figure 15. Mechanical calculators and mechanical computers
from previous centuries are deserved for development of the electronic computers

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www.veljkomilkovic.com

www.pendulum-lever.com