## Can Football Fans Win the Home Match Sitting in the Stadium? (1) by Dr. Tamas Lajtner<sup>A</sup>

**Abstract** According to chaos theory, the single flap of a butterfly's wings can lead to unexpectedly great consequences. This sentence allows us to picture the phenomenon, but we may understand it in a more concrete form. We can measure the energy of the flap of a butterfly's wing. This energy is about as great as the measurable energy of thought. Using chaos theory, thought is able to change the environment. The butterfly effect can manifest itself as a thought effect.

**Keywords** thought, thought energy, butterfly-effect, butterfly, chaos theory, football, sport, fans

Speaking of football, there are plenty of discussions about the advantages of a home match. The players know the home pitch; they know how the sun shines and how the wind blows, etc. Intimate knowledge helps the home team. Still, there is another advantage. At a home match, it is practically certain that the home team will have more fans. Why is this important? Can the home fans help the football team? We all know, yes, they can. By cheering. The fans can shout, sing and laugh, thus assisting their team.

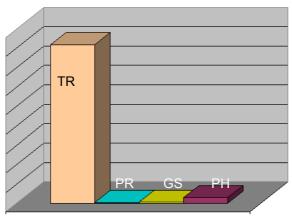
Also, fans can think. "So?" you might remark, "Thought cannot help." Or can it? Can fans help out their teams via thought? Can the fans change the odds via thought? They can if the total thought force of fans is as great as the energy in the flap of a butterfly's wings. How does the butterfly apply here? We are familiar with the concept from Lorenz, that the flap of a butterfly's wings is capable of causing a tornado. Hence, influencing a football mach cannot be much of a problem for a butterfly. The science behind the butterfly effect is the element of chaos theory known as *sensitive dependence*, according to which even the tiniest change of input can result an unexpected and vastly different outcome. All input can be expressed as an amount of energy. Since the butterfly is not strong at all, this energy must be very small, but what exactly is the magnitude of this "very small energy"?

There are many butterflies. Which one shall we choose? It is no problem, since any butterfly can cause the butterfly effect. Betts and Wootton<sup>2</sup> gave a detailed description of four types of

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A Email via web site: www.lajtner.com

butterflies and their motion. What do we know about the energy of a wing-flap? FIG.1. shows the energy of these motions.



Energy of one flap of wings in Joule

FIG.1. Energy (in Joule) of the measured motion of butterflies – namely, Troides rhadamantus (TR), Papilio rumanzovia (PR), Graphium sarpedon (GS) and Pachliopta hector (PH). These butterflies are neither big nor small. Their body lengths are 24-47 mm.

The amount of energy created when these butterflies flap their wings falls into this range:  $E_{butterfly} = 2.88 \times 10^{-7} - 8.18 \times 10^{-5}$  Joule. Is thought energy lesser or greater? Or doest it perhaps fit within this range? What is the magnitude of thought energy?

The energy of thought is disputed, because this kind of energy is very unique. Unique or not, it also has a value, even in Joules. How many Joules?

Lajtner<sup>3</sup> has published a paper on thought force and thought energy. This is the first and only time that the value of thought energy has been recorded and published, so we must rely upon this value. In the experiment on thought energy, thought rotated a paper wheel. The rotation lasted 50 seconds, and the energy acting upon the wheel was  $E_{thought} = 1.62 \times 10^{-11}$  Joule.

Yes, this amount of energy is very small! It seems we need a butterfly to change the odds of a football match, because thought energy seems to be insufficient. Then again, it is not.

If there are 50,000 fans in the stadium, than they could exert  $E_{\textit{fan's thought}} = 50.000 \times 1.62 \times 10^{-11} \text{ Joule}. \text{ That is, they could produce, within a period of 50}$  seconds, an amount of energy that is bigger than that of the smallest butterfly's wing-flap.  $E_{\textit{fan's thought}} = 8.1 \times 10^{-7} \text{ Joule}. \text{ Hence, fans could be capable of causing a tornado in Texas.}$ 

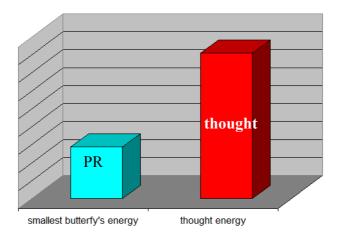


FIG. 2. The energy of thought (in Joules, period of 50 seconds) is greater than the energy (in Joules) of one flap of a small butterfly's wings.

FIG.2. shows that both butterflies and fans can influence the match. Fans could influence, for example, the direction of the flying ball. This influence remains invisible and, I suppose, absolutely immeasurable; yet, it offers a glimmer of hope that we could win the cup this way. Of course, footballers must play on their own.

On the other hand, the fans do influence the athletes' mental environment. Players can and do receive actual energy from the fans via thought, albeit unconsciously. This thought energy is genuine energy, and it is measurable. Footballers can convert it into mental or physical energy, also unconsciously. This is the actual and measurable advantage of a home match.

So, can fans win the match? Yes, they can. And who looses matches? The butterflies.

<sup>&</sup>lt;sup>1</sup> Lorenz E N (1972) Predictability: Does the Flap of a Butterfly's Wings in Brazil Set Off a Tornado in Texas? (Am. Assoc. Adv Sci, December 29)

http://gymportalen.dk/sites/lru.dk/files/lru/132\_kap6\_lorenz\_artikel\_the\_butterfly\_effect.pdf

<sup>&</sup>lt;sup>2</sup> Betts C R, Wootton R J, (1988) Wing shape and flight behaviour in butterfies (Lepidoptera: Papilionoidea and Hesperioidea): a preliminary analysis J. exp. Biol. 138, 271-288.

 $https://www.academia.edu/4447444/wing\_shape\_and\_flight\_behaviour\_in\_butterflies\_lepidoptera\_papilionoide\\ a\_and\_hesperioidea\_a\_preliminary\_analysis$ 

<sup>&</sup>lt;sup>3</sup> Lajtner T (2016) Thought force is a new fundamental interaction, Physics Essays http://physicsessays.org/browse-journal-2/product/1463-16-tamas-lajtner-thought-force-is-a-new-fundamental-interaction.html