**Week 4 Discussion 1**

Einstein had studied space and time intensively and showed us their relativity. But besides the scientist he was also a philosopher. Einstein would have been most astounded by such considerations. Because black holes count only since the 1970s to the official inventory of astrophysics. Fortunately, Einstein himself has said even more about his view of the world. Albert Einstein was what is called a universal genius is a complex thinker who wanted to better understand the world through scientific methods.

“Only two things are infinite, the universe and human stupidity. But I'm not sure about the universe”. (Einstein, 2005).

According to this famous quote, Einstein conceded two things to the universe: that it is infinite and that it is loving. We can discover an amazing parallel in it - also of love one says that it is limitless and expands. Corresponding references to this can be found in phrases such as " Spreading the heart / having an open heart" / loving limitlessly.

In 1936, Einstein submitted a paper titled "Do gravitational waves exist?" To Nathan Rosen, his assistant at the Princeton Institute for Advanced Study. "When Einstein asked that question in 1936, you can see that he was not sure," says Barry Barish, longtime director of the LIGO collaboration. Historical documents prove that. In a letter to Max Born from the same year, Einstein wrote: "I have come to believe that gravitational waves do not exist." (Tweney & Chitwood, 1995). This had mainly mathematical reasons. Einstein's calculations had come up against annoying infinities that suggested he had just discovered a phantom with no physical basis.

But there was a solution to the mathematical difficulties. At that time, today's standard peer review, i.e. the correction of articles by independent reviewers, was introduced. The editor of the journal Physical Review gave the article to astronomer Howard Robertson, who made Einstein's formulas more manageable by choosing another coordinate system - and eliminated the annoying infinities. The editor sent this corrected draft back to Einstein.

Conclusion

Einstein's statement remains a mystery. Not least because his attitude to religion is fragmentary and contradictory. But it is precisely this mystery that teaches us not to consider Einstein's achievements and insights not only in a physical context.

References

Einstein, A. (2005). Einstein versus the physical review. Physics Today, 58(9), 43.

Tweney, R. D., & Chitwood, S. T. (1995). Scientific reasoning. Perspectives on thinking and

reasoning: Essays in honour of Peter Wason, 241-260.