

## London Mathematical Society Newsletter, September 2010

### Review of the film

*Rites of Love and Math* by **Reine Graves and Edward Frenkel**

*Rites of Love and Math* is a 26-minute colour film which is a homage to the 26-minute 1966 black and white film *Rites of Love and Death*. The original film was directed by Yukio Mishima, who also starred as a young Japanese army officer. The officer would rather die than execute his friends, who were involved in the failed coup d'état of 1936. He spends his last night making love to his wife, after which he commits harakiri. The original film is of great intensity, with the stylized Noh theatricality heightened by the soundtrack of *Tristan and Isolde*. In addition, we know that in 1970 Mishima himself participated in a failed coup d'état and committed harakiri.

Edward Frenkel, the co-director of *Rites of Love and Math*, is a distinguished mathematical physicist at Berkeley. In the film he plays the mathematician who discovers after many years of hard work a Formula of Love so powerful that it can be used for both good and evil. The formula is credibly played by equation (5.7) in Frenkel, Losev and Nekrasov [2]. The Forces of Evil want to steal the formula. The mathematician spends his last night with his lover (played by Kayshonne Insixieng May) preserving the formula for posterity by tattooing it on her body, and then stabbing himself with the tattooing pen. While the story is ludicrous, the acting is carried off with great conviction, and the bodies are indeed beautiful. (I eschew the obvious pun about the mathematical physique.) The two films should really be seen together, as the modern version is a pastiche of the original. For all its goriness, the original made a far greater impression on me.

Mathematicians feature ever more frequently in films and on TV the website *Movies in Mathematics* [3] offers a good selection. By and large, male mathematicians are portrayed as crazies who are smart and lovable, but badly dressed. Likewise for female mathematicians, although they tend to be better dressed. This said, in the film under review, the actors are either very well dressed, or not dressed at all.

My two personal favourite films involving mathematicians are *Merry Andrew* (1958) with Danny Kaye as a mathematics teacher singing "The square on the hypotenuse of a right triangle is the sum of the squares of the two adjacent sides", and the witty short *Measuring the World* [1] promoting the English translation of Daniel Kehlmann's wonderful German novel about

Gauss and Humboldt. Gauss is depicted on his wedding night, in the throes of mathematical passion!

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#### References

1. O. Cheetham, Measuring the World,  
[http://www.youtube.com/watch?v=SC6P\\_5A4OIA](http://www.youtube.com/watch?v=SC6P_5A4OIA)
2. E. Frenkel, A. Losev and N. Nekrasov, *Instantons beyond topological theory I*, <http://arxiv.org/abs/hep-th/0610149>
3. O. Knill, Movies in Mathematics website,  
<http://www.math.harvard.edu/~knill/mathmovies/>.