

Interactive comment on “HESS Opinions “The art of hydrology”¹” by H. H. G. Savenije

G. Pegram (Referee)

pegram@ukzn.ac.za

Received and published: 16 December 2008

Some years ago, I was fortunate to listen to a lecture by Peter Lissaman, co-designer of the Gossamer Albatross which was the first human powered aeroplane to cross the English Channel. He was a Mechanical Engineering graduate from my University and got his PhD at Caltech. His talk in 1986 was about technical creativity and afterwards he gave me his card which had the following on the obverse side:

- challenge assumptions
- view differently

¹Invited contribution by H. H. G. Savenije, the EGU Henry Darcy Medallist 2008 for outstanding contributions to Hydrology and Water Resources Management.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



- perceive patterns
- make connections
- establish networks
- exploit chance
- take risks

I still have the card as I reckon that it summarises the creative art of research in engineering (and science) very succinctly. The “HESS Opinion” by Hubert Savenije echoes some of these “good things” and introduces them in a seductive way. The opinion starts in the style of a fire-side chat (surprising in a technical journal, but on reflection quite engaging) moving on to an anecdotal description of two interesting hydrological problems, which set the stage nicely for the holistic “top-down” view of hydrological modelling. The model as art is well developed and I was being happily swept along by the story until I detected an under swell which developed into a strong current of distinction between “top-down” and “bottom-up”; between “we scientists” and “engineers” and between “hydrology” and “hydraulics”. For a while I did not understand what was happening and became aware of a discomfort as to where I stood in this multidimensional situation on many counts, but primarily because of my objection to the dichotomy. We need all of these things and people, in the mix of interdisciplinary collaboration, if we are to solve the pressing, very difficult and complex hydro-meteo-climato-logical problems besetting us. In the time of the slide rule and log-table we were able to solve simplified problems abstracted from reality with some serious mathematics; in the day of the megaflop laptop we tend not to be so smart mathematically, because the machine can compute fast and we can handle multiple streams of data, e.g. from satellites, as well as increasingly complex models. Perhaps this frees us to do more artful thinking? I applaud

S2194

HESSD

5, S2193–S2195, 2008

Interactive
Comment

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



the thesis of the practice of creative art in hydrology; however, I decry the divisiveness of the sentiments expressed in the latter part of the opinion. Withal, it seems that this is the continuation of an old debate; I end with a quote which was one of the favourites of Karl Popper, British philosopher of natural and social science: "The gods did not reveal, from the beginning, All things to us, but in the course of time Through seeking we may learn and know things better. But as for certain truth, no man has known it, Nor shall he know it, neither of the gods Nor yet of all the things of which I speak. For even if by chance he were to utter The final truth, he would himself not know it: For all is but a woven web of guesses." [Xenophanes, c.500 BC]

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 5, 3157, 2008.

HESSD

5, S2193–S2195, 2008

Interactive
Comment

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

