# Re: Epistemology 201: The Science of Science

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"Jason" <jasonstevensNOSPAM@free.net.nz> writes:

[context is discussion of 4 color problem]

*>Well, they verified the cases by computer.*

Lots of mathematics is verified with pencil and paper. Does the use of pencil and paper make it empirical.

*> But how do you prove an algorithm is*
*>correct?*

The same way that you demonstrate that a mathematical proof is correct. Oh, by the way, there are many incorrect proofs in the published literature.

*> The 'proof' of the four*
*>colour problem is partially inductive.*

If that is correct, then all logic is partially inductive.

*>The computer literally did the colouring of maps and counting of the colours.*

The computer was used as a book keeping tool, to keep track of details to numerous for ordinary human attention. This is not an empirical investigation, except in the strange meanings you seem to be giving to "empirical".

*>It was accepted after they tried it on other computers with different*
*>programmes.*

Traditional proofs are accepted only after people have worked through the details of the proof. Recoding the program and running on different computers is just part of the normal working through a proof.

*> But again, this is inductive evidence. That it is a legitimate*

*>proof is controversial.*

You are misusing "inductive", much as you have been misusing "empirical".

Although there was some initial controversy over the idea of using a computer in the proof, I have not seen much evidence that it is currently considered controversial.