From: Laurent SIEBENMANN
To: Andrew RANICKI
Date: Sat, 19 Nov 2005

Dear Andrew

The Jordan Curve theorem states:

$<<$ If J is subset of the plane $\mathbb{R}^2$ that is homeomorphic to the unit circle, then its complement $\mathbb{R}^2 - J$ consists of exactly two connected components.$>>$

This is the mathematical formulation of a fact that shepherds have relied on since time immemorial!

The original 1887 publication of this theorem in volume 3 of Camille Jordan's "Cours d'Analyse de l'Ecole Polytechnique" is rarely cited. The 1887 date convinces me, that, for example, Jordan was not under the influence of Poincaré's topology.

Even authors who have had access to some edition of "Cours d'Analyse ..." rarely indicate the true year of original publication. Sometimes, gross misinformation is widely circulated; for example I currently read at:

http://www-groups.dcs.st-and.ac.uk/ history/Mathematicians/Jordan.html

these lines by J.J. O'Connor and E.F. Robertson:

These concepts appear in his Cours d'analyse de l'Ècole Polytechnique first published in three volumes between 1882 and 1887. The second edition appeared in 1893 while the Jordan curve theorem appeared in the third edition of the text which appeared between 1909 and 1915.

The basic cause of such misinformation is surely neither deceit nor laziness, but rather the extreme rarity of the early editions of "Cours d'Analyse ...". Let us set this matter straight by publicly exhibiting Jordan's original text in electronic form. Let us hope that the entire 3 volume treatise will be made available in electronic form some day. By exhibiting one significant extract, I hope we hasten that day.

To the best of my knowlege, all this material is in the public domain.

Yours with thanks,

L. Siebenmann (in Paris)

– who is currently available via: http://topo.math.u-psud.fr/ lcs/contact

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PS. To assist readers of your excellent archive, I cite some basic historical studies relevant to "Cours d'analyse ..." and the theorem in question:

[1] Gispert-Chambaz Hélène, "C. Jordan et les fondements de l'analyse (comparaison de la 1ère édition 1882-1887 et de la 2ème édition 1893 de son cours d'analyse de l'école Polytechnique)", Publications Mathématiques d'Orsay no. 82-05; thèse de doctorat, 143 pages, 1982; directeur Kahane Jean-Pierre, soutenance 21 avril 1982.

[2] Dostál M. and Tindell R., "The Jordan curve theorem revisited", Jahresber. Deutsch. Math.-Verein, 80(1978), 111–128.

[3] L. Siebenmann, "The Osgood-Schoenflies theorem revisited", Russian Math Surveys (= Uspekhi Math. in English translation), in press 2005; a preprint is available in the Hopf archive
http://hopf.math.purdue.edu/cgi-bin/generate?/Siebenmann/Schoen-02Sept2005

PPS. You write:

In the early 1950's, when talking about colleagues inside prison in Hungary, Erdos's favoured circumlocution was that "they are studying the Jordan curve theorem".

Salomon Bochner's article mentioned in [2] gives some sort of explanation!