The Optical Neume Recognition Project

Project Start Oct. 2012 – Funded PhD student position by the "Social Sciences and Humanities Research Council of Canada"

http://www.cs.bham.ac.uk/~aps/research/projects/neumes/project-description.php

The goal of the Optical Neume Recognition Project is to develop and apply software to elicit musical directives from graphic symbols (neumes) found in the earliest Western musical notation (10th century and later). Given that individual medieval chant manuscripts could contain anywhere from 100,000 to 250,000 recurrences of approximately 20+ discrete neume types, the proposed software will allow musicologists to study these signs more quickly and accurately and, most importantly, in far greater depth than ever before.

This software will be indispensable when comparing scribal traditions, isolating differences in chant melodies transmitted in various neumed manuscripts, and answering questions about:

• the meaning and uses of particular neumes
• various types of neume-text relationships
• and the scribal process itself, such as the use of writing materials and kinds of working methods a scribe might use.

We will be specialising in:

• noise reduction
• binarisation
• layout analysis
• feature extraction
• colour separation
• handwriting analysis
• symbol recognition
• script registration

Dr. Jennifer Bain, Dalhousie University, Department of Music, Canada
Dr. Inga Behrendt, K.U. Leuven / Musicology Research Unit, Belgium
Dr. Kate Helsen, University of Toronto, Faculty of Music and University of Western Ontario, Don Wright Faculty of Music, Canada
Alan P. Sexton, School of Computer Science, University of Birmingham, UK