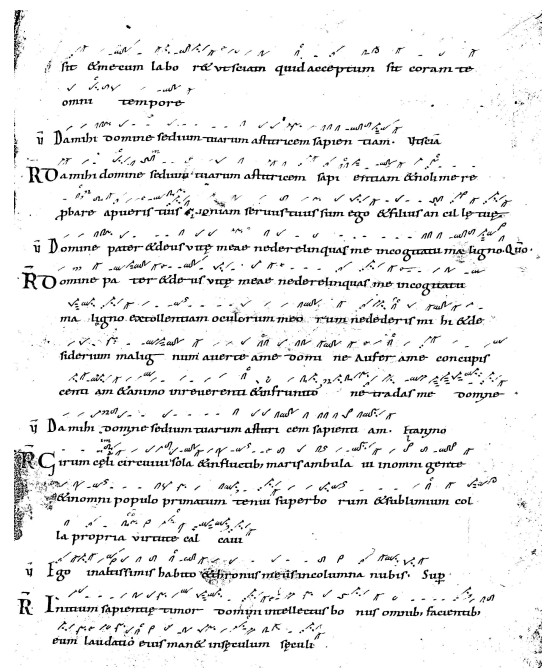
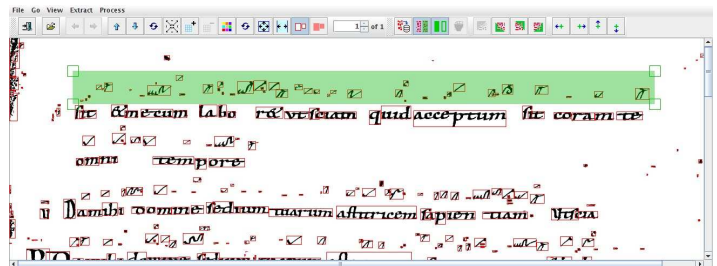


# The Optical Neume Recognition Project

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 pitch materials and kinds of working methods a scribe might use.

Virga		Single pitch or Higher pitch
Punctum		Single pitch or Lower pitch
Pes		Lower pitch - Higher pitch
Civis		Higher pitch - Lower pitch
Torculus		Lower pitch - Higher pitch - Lower pitch
Porrectus		Higher pitch - Lower pitch - Higher pitch
Scandicus		Lower pitch - Medium pitch - Higher pitch
Climacus		Higher pitch - Medium pitch - Lower pitch

We will be specialising in:

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

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