

A Revised View of Thought and Language: Olfactory Conditions and Genetic Signaling in Non-Human Primates (2010)

McNair Research Project (Summary)

Nathaniel Bobbitt
eye@nabslab.com

[Abstract](#) | [Digital Scholarship](#) | [Bibliography](#)

NCBI Public Collection (1,945 Research Papers & 359-1,124 MeSH Keywords)

Revision of thought and language

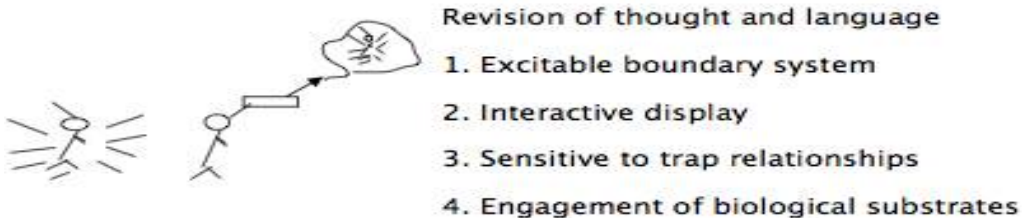
Language conveys thought and thought relays language ← **Ricochet Effect**

The chemical ecology in vertebrates represents an alternative to the *ricochet effect*.

Evolutionary disjunction between

Color reception in Catarrhini primates

Scent-marking primates (Prosimii) with an olfactory awareness



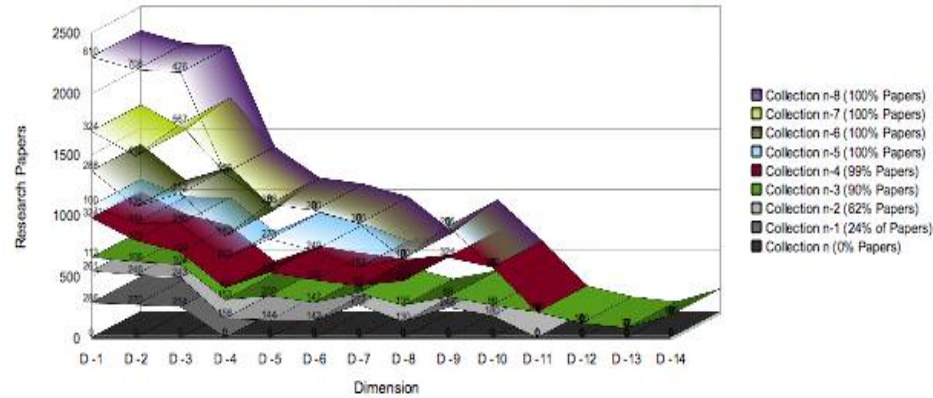
Project Motivation: Identify how to use biological substrates

Symbolic Character Set | Cognitive Architecture | Visually Structured Content

Data

Multi-Facet Analysis 1,945 Research Papers NCBI

Multifacet Contour Map (9 Collections x 14 Dimensions)
(Collection = A Range of Frequency of a Common Keyword)



Single Shared Keyword Distribution (9 Collections)

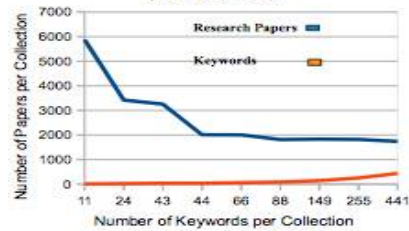


Table I 9 Collections (Research Papers) with a Common Keyword

Collection	Research Papers	Keywords	% Repeating Sequences
n	5879	11	0
n-1	3423	24	.25
n-2	3254	43	.7
n-3	2011	44	.84
n-4	2005	66	.98
n-5	1816	88	1
n-6	1835	149	1
n-7	1823	255	1
n-8	1744	441	1

Biological Machines and Olfactory Reception (Warrant further analysis)



Macaque
Washing a potato
Visuotactile

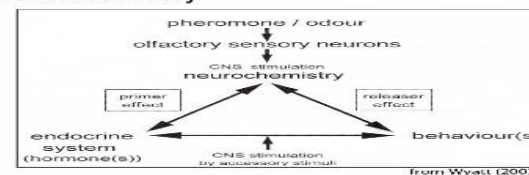


Ringtail Lemur
Scent-marker
Olfactory Cocktail (Urinary-Feces Secretions)

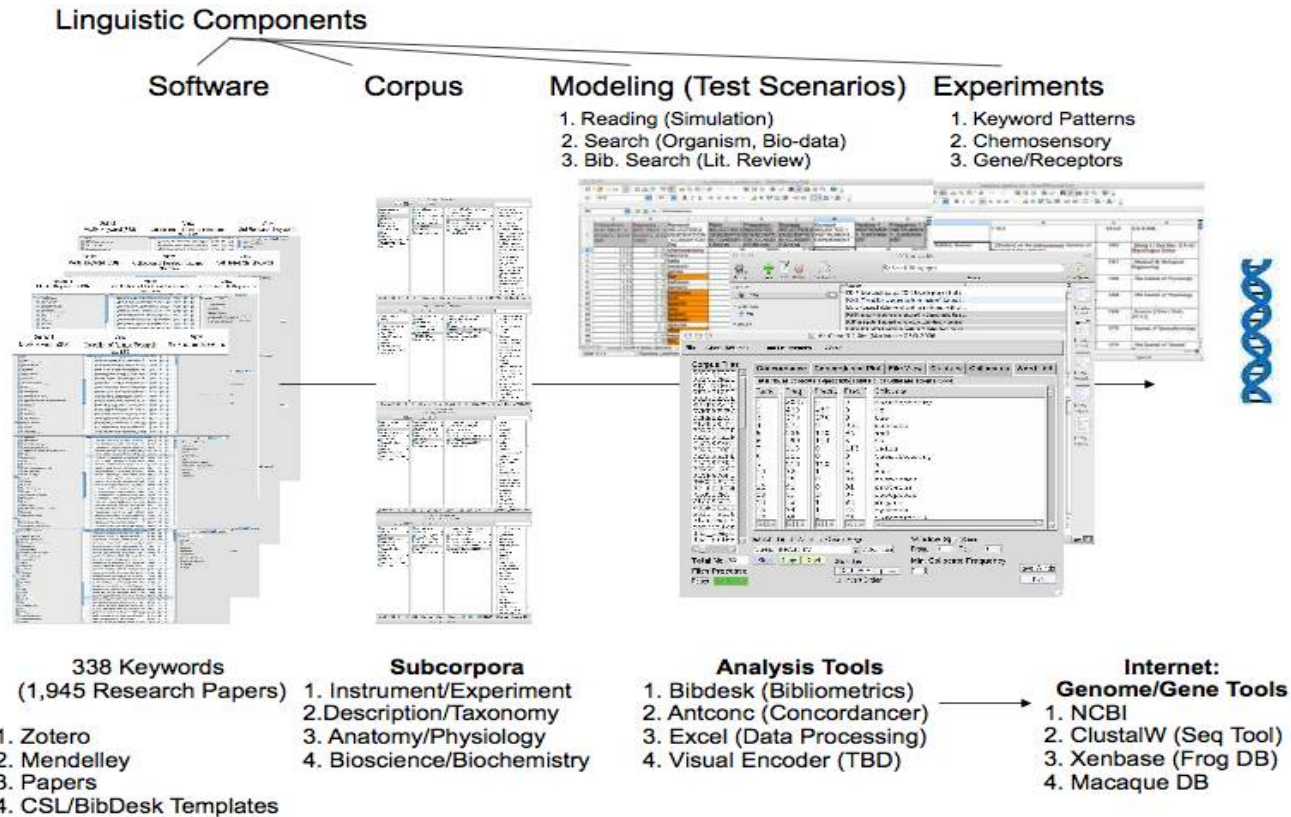
Social Behavior Research Olfactory Model Morphology | Chemosensory

Cross Section Olfactory Morphology

VNO Vomeronasal Organization
OE Olfactory Epithelium
MOB Main Olfactory Bulb
AOB

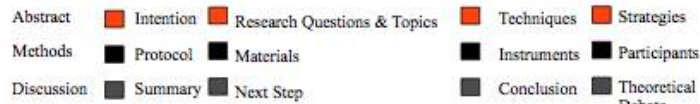


Tools



Linguistic Content (Polysemy, Anaphora, Polarity)

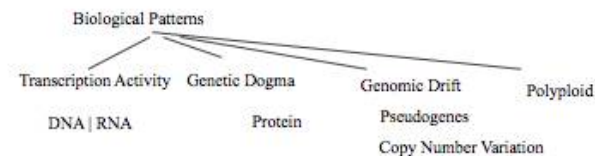
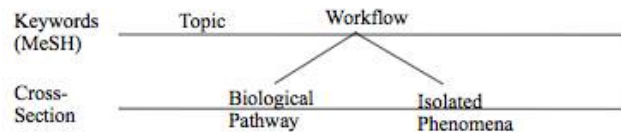
Survey of Research Document



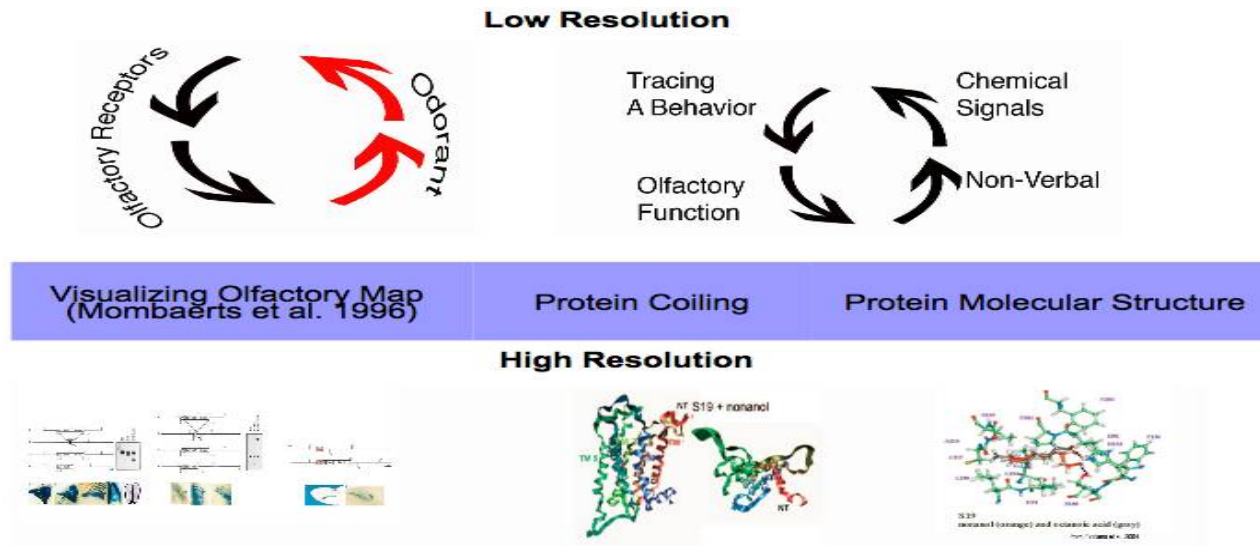
Visually Structured Content (DNA/RNA, Protein, Chemical Signals)

Guidelines for Corpus on Olfactory Research

Olfaction		Experimental Data	
Species	Fluorescence	Primary	Bio Assay
Chemical	Histology	Metabolic pathway	Genetic
Genetics	Hormone/Enzyme	Invasive Experiments	Sensory model
	Evolution		Neural, Olfaction circuitry
			Scout Marking & Systematic (Literature)



Models



Building a Chemosensory Model

Research Milestones

Olfactory

1991- 1999 G-Protein Repertoires (Superfamily Genes),
Visualizing Olfactory Maps, Combinatorial Codes in Odors

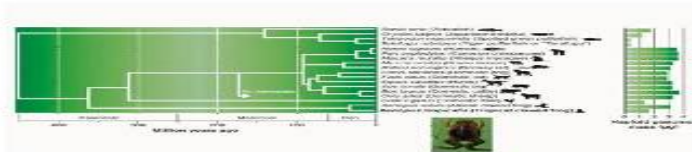
2004 Buck & Axel Nobel Prize for Olfactory-Gene Research

Species Genomes

2000 Human Genome Released
2002 Xenopus (Frog) Genome Initiative (NIH)
2003 Human Genome Sequence Completed

Toward Evo-Devo

2006 Review on Xenopus
2006 Primatology Research on Genomic Drift & Pseudogenes
2009 Western Clawed Frog GPCR
2010 Western Clawed Frog's
Genome Sequenced



Search Parameters

