Configural Processing Consortium (CPC), 2013

York University, Toronto

Wednesday, November 13, 2013

WHEN:	Wed., November 13th, starting at 9am (breakfast at 8:30).
WHERE:	York University, Lumbers building, room 306 (map at the end).
HOW to get there:	Dedicated bus from the Sheraton Centre Hotel, Toronto.
	PICK-UP at 7:30am, Richmond st. (sign for coach loading area)

8:30am	continental breakfast
9:00 - 9:15am	Welcome
9:15 - 9:45	Talk I (James Elder)
9:45 – 11:00	Session I (Wagemans, Kubovy, Kellman, Froyen)
11:00 – 11:15	break
11:15 – 12:30	Session II (Garrigan, Ganel, Kimchi, Wallis)
12:30 - 1:30	lunch
1:30 – 2:00	Talk II (Steve Silverstein)
2:00 - 3:15	Session III (Lentz, Neufeld, Townsend, Erez)
3:15 – 3:30	break
3:30 - 4:00	Talk III (James Pomerantz)
4:00 – 5:15	Session IV (Algom, Enneson, Mullin, Overliet, Eidels)
5:15 - 5:30	Conclusion
6:00pm	dinner

Website: **http://configural.org/**

Contact: **Ami.Eidels@newcastle.edu.au**

ExraStrop Dalliances: Perceiving Non-Stroop or Non-Configural Properties of Stroop or Configural Objects

Daniel Algom
Tel-Aviv University

Virtually all objects in people's perceptual milieu are multidimensional. The books on your shelf come in different width and color; the cars on the road have various shapes and move at differing velocities. Stroop stimuli comprise a subset of multidimensional objects with the following defining property: Each entail a pair of dimensions that hold a logical relationship - compatibility or conflict - with one another. The vast literature on Stroop objects focused on performance with one (or both) of these Stroop generating dimensions. The present study, by contrast, focuses on a third dimension of Stroop objects, one that does not belong to those generating the Stroop effect. Do people perceive such a dimension differently for Stroop congruent and Stroop incongruent stimuli? If so, which structure produces better performance? The current approach opens up new avenues for research and provides a novel perspective on cognitive phenomena including configural processing or the emotional Stroop effect.

Processing of simultaneous audio and visual signals: a different perspective on workload capacity

Ami Eidels, Keith Nesbitt, and Patrick Ng
University of Newcastle

In previous cpc meetings I have explored two operational definitions for configural processes: one based on comparing the performance of ideal and human observers (using measures of efficiency, multi-dimensional scaling, and structural-form modelling), and another based on Townsend and Wenger's set of axioms (namely, that configural process are coactive and super-capacity). The latter often relies on redundant-target experiments where a number of signals can be presented, say an auditory signal and an a visual signal, and the researcher measures the efficiency of processing both signals relative to the processing of each signal in isolation.

Of particular interest is the question of how signals from different sensory modalities are combined. Such studies (e.g., Miller 1982, 1991) revealed violations of certain bounds of performance (Miller's race model inequality, Super Capacity), leading to the rejection of race models in favour of coactivation (and hence *some* support for configural processing). In redundant target experiments, each of the signals is a sufficient cue to elicit a detection response. The current study explores the contribution of auditory signals to the detection (identification) of visual target stimuli, when the auditory signal *does not* provide target-specific information. Rather, they may be used as temporal cues to assess optimal timing for decision making and response.

[Q. 1]

Configural determinants of the perceptual organization of shape [Long talk]

James Elder

York University

Many experiments have demonstrated the remarkable ability of the human visual system to rapidly extract object contours from complex natural imagery to support object recognition. A baseline computational model for this process represents contours as Markov chains that use only first-order local cues to grouping, however computer vision algorithms based on this model fall well below human levels of performance. Here we explore the possibility that the human visual system exploits higher-order configural information to solve this problem. In particular, we consider a recurrent architecture in which higher areas of the object pathway generate shape hypotheses that condition grouping processes in early visual areas. Such a generative model could help to guide local bottom-up grouping mechanisms toward globally consistent solutions. In constructing an appropriate theoretical framework for recurrent shape processing, a central issue is to ensure that shape topology remains invariant under all actions of the feedforward and feedback processes. This can be achieved by a promising new theory of shape representation based upon a family of local image deformations called formlets, shown to outperform alternative contour-based generative shape models on the important problem of visual shape completion.

Rewriting reading: toward a new functional ontology for rapid automatic visual word-from resolution [Q. 2]

Peter Enneson
Toronto, Ontario, Canada

Joseph Houpt and James Townsend's new perspective on visual word processing efficiency (2010) presents data that negates the channel assumptions of the standard PDP models, but in their discussion of their results they hang on to the implementational idea that the processing is letter-based. Recent work by Xavier Morin-Duchesne at the Centre de Recherche en Neuropsychologie et Cognition, Département de Psychologie, Université de Montréal (2012 & 2013), suggests that, in reading familiar words, the letter level is by-passed. In this presentation I describe a hierarchical 'relational filtering' model of the rapid automatic visual word-form resolution of familiar words by skilled readers reading continuous text. I claim the model I describe is: 1) consistent with the typographical craft knowledge and the professional attunements of expert type designers and seasoned typographers; 2) compatible with emerging insights from psychophysics, cognitive scientific studies of reading, and neuroscience; and 3) can dovetail effectively with concerns in the configural processing literature to provide a richer and more gestalt-sensitive understanding of the front end of visual processing. The model starts with the idea that rapid automatic visual word-form resolution pivots around the quantization of visual information into *stroke units*. Secondly, it assumes no explicit labeling at the letter level. Finally, it creatively assimilates extant notions of string kernels, multiple decks, interfacilitation, intrinsic integration and matrix resonance.

Complex neural object representations: The whole is different from the sum of the parts [O. 3]

Jonathan Erez
University of Toronto

The medial temporal lobe (MTL) is known to be vital for memory. However, recent studies have shown that a set of brain structures within the MTL are also important for perception. It was suggested that one MTL structure in particular, the perirhinal cortex (PRC), should be considered part of the representational hierarchy in the ventral visual stream (VVS) and is responsible for representing complex conjunction of features that comprise objects, perhaps at a view-invariant level. In this study we used multi-voxel pattern analysis (MVPA) of functional magnetic resonance imaging (fMRI) data to investigate how the brain binds together object features to create a cohesive object representation. Participants completed a one-back task involving novel objects that comprised either one, two or three features and were presented from one of two possible viewpoints. This allowed us to examine whether the neural representation of a pair of objects depended only on the sum of their parts or whether specific feature conjunctions within objects were encoded. Results indicated that anterior regions of the VVS, including the PRC, represented feature conjunctions comprising the objects, over and above the individual features themselves. Moreover, we found evidence to suggest that these conjunctive representations in PRC were view-invariant.

A Bayesian mixture model framework for understanding perceptual grouping

Vicky Froyen, Jacob Feldman, and Manish Singh
Rutgers University

We propose a Bayesian framework for perceptual grouping in which the goal of the computation is to estimate the organization that best explains an observed configuration of image elements. We formalize the problem as a mixture estimation problem, where it is assumed that the configuration of elements is generated by a set of distinct components ("objects" or "clusters"), whose underlying parameters we seek to estimate (including location and "ownership" of image elements). An important aspect of this framework is that we can estimate the number of objects in the image, given a set of assumptions about the nature of the generative processes that produced the elements. We illustrate our approach, and compare it to human perception, in the context of one such generative class: Gaussian dot-clusters. We find that numerical estimates derived from our model closely match subjects' perceptual estimates of number of clusters. Thus our Bayesian framework for perceptual grouping, as one side-effect, effectively models the perception of cluster numerosity. Furthermore, we will show examples of how this framework can easily be generalized to other aspects of perceptual grouping such as contour integration and part-decomposition.

Effects of holistic processing on the spatial resolution of face features

Tzvi Ganel, Gal Namdar, and Galia Avidan

Ben-Gurion University of the Negev

Holistic processing governs human perception across various domains, including face perception. An established marker of holistic face perception is the face inversion effect, in which performance is typically better for upright compared to inverted faces. Here, we tested whether holistic processing could influence basic visual abilities such as spatial resolution. Face-related spatial resolution was assessed by measuring the just noticeable difference (JND) to subtle positional changes between specific features for upright and inverted faces. The results revealed robust inversion effect for spatial sensitivity to configural-based changes, such as the distance between the mouth and the nose. Critically, spatial resolution of non-configural face attributes (e.g., overall face size) was not affected by inversion. These findings imply that holistic processing modulates fundamental psychophysical abilities including spatial resolution. Furthermore, they indicate that basic psychophysical methods can be used as sensitive and robust measures of holistic processing.

Human Computer Interaction in Fingerprint Analysis [Q. 2]

Patrick Garrigan

Saint Joseph's University

Fingerprints are uniquely suited for automated analysis. Some of the most important obstacles to automated recognition of objects from images do not factor in the analysis and comparison of fingerprints. This is one reason why automated fingerprint comparison works well in so many applications. However, human experts are required for fingerprint comparisons involving latent prints collected at, e.g., crime scenes. Latent prints are often of much lower quality than fingerprints acquired under controlled conditions at, e.g., a police station. Consequently, automated systems that work well when comparing high quality fingerprints have unacceptably high error rates when applied to low-quality latent fingerprints. Here I will discuss an interesting case, the “cold hit”, where a human expert compares a latent fingerprint to the “most similar” fingerprints selected from a large database by automated image processing algorithms. In this case, the interaction of automated image processing and human perceptual processing may have important unintended consequences. I will discuss these issues, and suggest how expert examiner training and procedures may be modified when latent fingerprint examiners interact with an automated fingerprint identification system.

Configural Processing and Perceptual Learning [Q 2, 1, 4]

Philip J. Kellman
University of California, Los Angeles

Most recent work in perceptual learning (PL) has focused on basic sensory discriminations and would appear to have rather little connection to configural processing. Contrary to the prevailing view, I will present data and arguments suggesting that 1) perceptual learning is usually configural, even in so-called low-level tasks, and 2) both low and high-level PL tasks involve principles of selection and use of abstract relations. These ideas connect the simple sensory tasks of current research with both earlier PL research and virtually all real-world PL tasks, which focus on discovery of invariance amidst variation. This unified and more abstract view of PL has many implications, including: PL and other cognitive processes work synergistically in complex cognitive tasks, and PL comprises a larger component of learning and expertise than has usually been understood. I will relate this unified, configural view of PL to direct practical applications, and show that technology based on PL -- Perceptual Learning Modules (PLMs) -- can address elusive aspects of learning, including pattern recognition, transfer, and fluency in complex domains such as medical learning, and can do so even in high-level, symbolic domains, such as mathematics learning.

Configural and featural facial information: Integrality in normal face processing, separability in prosopagnosia

Ruth Kimchi
Haifa University

Adults' expertise in face recognition has been attributed to their ability to engage in holistic processing. Exactly what constitutes holistic processing has remained controversial, however. In an attempt to understand the nature of face representation and processing, we examined how configural and featural information interact during face processing in a group of individuals with congenital prosopagnosia (CP) and matched controls, using Garner's speeded classification task. We replicated the finding (Amishav and Kimchi, 2010) that normal observers evince symmetric Garner interference—failure to selectively attend to features without interference from irrelevant variation in configuration, and vice versa—indicating that featural information and configural information are integral in normal face processing. In contrast, the CPs showed no Garner interference – they could attend to configural information without interference from irrelevant featural information, and vice versa – indicating that featural information and configural information are perceptually separable in CP's face processing. These results indicate that CPs do not perceive faces holistically; rather, they process featural and configural information independently. This finding not only elucidates the underlying perturbation in CP but also confirms that intact face processing is characterized by the perceptual integrality of configural and featural information.

Are Lives Configural?

Michael Kubovy
University of Virginia

I propose a minimal structure for a phenomenological ontology of lives.

1. A first layer cconsists of (A) unique events, (B) recurring activities, (C) continuing activities, (D) concerns. The first type (A), occurs infrequently at an unpredictable time and place. The second type occur regularly at a predictable time and in a predictable place. The third type is discontinuously distributed over time and does not necessarily occur at a particular place. The fourth type infiltrates the day (e.g., hopes, fears, worries).
2. The second layer: To each entity in the first layer a person can assign a value of centrality or importance to his or her life. By and large, only entities of type (C) and (D) will be assigned high centrality or importance.
3. The third layer: what connects continuing activities and recurring concerns are spontaneously generated narratives.

The fourth layer: everything a person experiences falls into one of several self-generated strands. This amounts to claiming that lives are nearly decomposable (in the sense of Simon & Ando, 1961). These events and activities in these strands occur in parallel and are asynchronous w.r.t. each other. When a person inhabits a strand it is figure and all the other strands are ground

Increase in workload capacity for binaural masking release

Jeniffer Lentz

Indiana University

It has long been known that across-ear phase differences of a signal stimulus facilitate signal detection in noise when those phase differences are not present in a noise masker. For example, this configuration could occur when signal and noise stimuli are in different spatial locations. To shed further light on the mechanisms responsible for this large release from masking, we measured workload capacity for the detection of tones in noise using reaction time distributions. In a double-factorial OR paradigm, listeners detected a 440-Hz signal added to white noise. Two signal-to-noise ratios [high (H) or low (L)] were factorially combined with location (one ear or both ears). When both ears were tested, the noise was always identical in the two ears. In the So conditions, the tone was presented in phase across the ears, but in the S□□conditions, the tone was phase shifted 180° across ears. Noise-alone stimuli (presented to one or both ears) served as “no” trials. Workload capacity analyses suggest either limited or unlimited capacity for all So conditions (HH, LL, LH, and HL). However, in the S□ conditions, the LL conditions exhibited super capacity, suggesting an increase in workload speed for dual targets compared to one. The implications of this workload advantage for phase-shifted signal conditions, especially when the task is difficult, will be discussed.

Setting the *scene* in configural processing: Paradoxes and problems

Caitlin Mullin and Johan Wagemans
University of Leuven, Belgium

Scenes, like other visual stimulus categories such as faces and bodies, activate specialized brain regions in the ventral visual cortex. However, unlike faces and bodies, scenes do not show a consistent configuration across categories or even certain exemplars within a scene category. For instance, faces share a similar configuration within and between variations in gender, expression and gaze direction. However, a narrow corridor and an ocean view share little configural information. Moreover, one playground may have a completely different configuration from another. Despite the lack of consistent configural information across scene categories, behavioral evidence shows observers use configural regularities in scenes to guide attention and subsequent behavior. In addition, scenes show configural characteristics such as processing deficits due to inversion. Here, I will review the paradox of configural processing in a configurally inconsistent stimulus category. Specifically I will (1) outline problems of integrating local and global information across different scene categories and task levels, (2) evaluate the role of spatial scale in part/whole relationships in scene perception, and (3) explore the concept of hierarchy in scenes. The challenges outlined here call for a new set of criteria or a grammar to describe and distinguish different scenes.

Mathematically Disciplined Analysis of Gestalt Cognitive Architecture in Stress- Proneness, and Schizophrenia

Richard W. J. (Jim) Neufeld
The University of Western Ontario

The Townsend-Snodgrass Parallel-Serial Testing Paradigm was used to investigate cognitive architecture, cognitive workload capacity, and termination criteria in samples of stress-prone, and schizophrenia individuals. A “parallel Gestalt architecture” is indicated when two adjacent targets are unitized, and an unique rate of processing is applied to the unit. The Gestalt architecture is distinguishable at the level of mean response latency, from regular parallel and serial structures; also, in the case of exponentially distributed completion times, it is distinguishable from a parallel co-active structure. The parallel Gestalt architecture demonstrably is retained in the case of psychometrically-designated stress proneness. Rather, model-identified workload capacity declines, and is sub-optimally deployed (Neufeld & McCarty (1994). *Br. J. Math. Stat. Psychol., 34,*197-226). The Gestalt architecture also amply is evident among schizophrenia participants. Here, workload capacity remains intact, but extra component processing operations (formally-defined subprocesses) of cognition-facilitative stimulus encoding are brought into play (e.g., Neufeld, et al [2010]. *J.Math. Psychol, 54,* 90-108). Implications of the latter for apparent schizophrenia deficit in perceptual organization are delineated. Throughout, provision is made for possible confounding effects of response accuracy, and of clinical and demographic variables (e.g., structure of psychometric measures and reliability of diagnostic criteria; medication effects; and socioeconomic status.).

Configural processing and Gestalt formation in haptic perception [Q. 4]

Krista Overvliet, Ralf Krampe, and Johan Wagemans
University of Leuven, Belgium

In this presentation I will discuss the importance of investigating configural processing in other sensory modalities than vision, for instance, in the haptic modality. Quite a few differences exist between the visual and haptic modality. Not only the sensors are different, also the way in which an object is explored is quite different: in vision one samples huge parts of the visual world in short snapshots, but in haptics spatial information is limited and has to be gathered and integrated over time, in a serial manner. The work we do in haptics aims to answer the question whether Gestalt formation takes place in similar ways across modalities. If Gestalt formation takes place in a similar fashion in haptics and visual perception we can assume that it is not simply a product of the proximal information at the senses, but a high level mechanism. After a brief discussion of the goals of the overall project, I will present an update on the work we have done since the last meeting.

The Theory of Basic Gestalts, Version 2.0 [Long talk]

James Pomerantz

Rice University

The Theory of Basic Gestalts (TBG; Pomerantz & Portillo, 2011) integrates within a single framework several issues central to perceptual organization in vision, including grouping, configuration, and the emergence of Gestalts from parts. TBG contrasts with traditional, feedforward models that have perception beginning with the rapid registration of “basic features” such as line orientation onto feature maps followed by their slow, attention-demanding integration within the spotlight of attention. Instead, TBG proposes that emergent features (EFs) are the functional starting point for perception: features that arise from yet are more salient than more basic features. For example, parallelism is an EF in that we are better at telling whether two lines are parallel than at determining the orientation of either line. TBG uses EFs to explain configural superiority (e.g., Cragin, 2013), Garner interference, pop out, similarity judgments, redundancy losses and gains, and more. TBG 2.0 explains pop out of feature singleton targets not by their uniqueness but by the distractors grouping together via symmetry or other EF, leaving the target isolated and breaking that symmetry. TBG can explain both negative search slopes and false pop out, including its newly discovered “pure” form (Orsten & Pomerantz, 2013), wherein a distractor poses as a target. Recent neuroimaging and patient data on configural superiority help localize where EFs are registered in the visual system.

Perceptual organization impairment in schizophrenia: Mechanisms and implications [Long talk]

Steve Silverstein

Rutgers University

Perceptual organization is impaired in schizophrenia. This has been demonstrated in over 50 studies, including with tasks where reduced grouping leads to superior performance (compared to controls) regarding judgments about individual features grouped with distractors. In addition, the impairment is unrelated to medication dose, and has been observed unmedicated and medicated patients. Current models suggest that it may represent a low-level manifestation of a disruption in cognitive coordination in general. Evidence for this includes relationships between reduced perceptual organization in vision and increased fragmentation in thought, language, emotion, and movement in schizophrenia, and significant covariation between these phenomena over time. This talk will present data from 2 paradigms that have been used in multiple studies of perceptual organization in schizophrenia: contour integration and the Ebbinghaus illusion. Psychophysical, fMRI, ERP, and clinical data will be presented that converges on the following conclusions: 1) performance deficits involve reduced top-down contributions to grouping, although evidence for occipital lobe activity reductions are observed; 2) impaired perceptual organization may be a biomarker of clinical state in schizophrenia, reflecting the extent of top-down (experience-based) modulation of grouping of feedforward visual signals; and 3) perceptual organization impairment in schizophrenia is found primarily in a subtype of patient, characterized by developmental abnormalities and disorganization in multiple cognitive domains, consistent with the idea of impaired cognitive coordination. Data from these and other studies also indicate that the results cannot be explained by poor orientation discrimination, magnocellular pathway dysfunction, poor motivation, or poor attention.

Attempted Incipient Unification of Differential Geometric and Dynamic Concepts of Facial Expressions

James T. Townsend, Brett Jefferson, Kami Salibayeva, and Aina Puce
Indiana University

The nerves which innervate the facial muscles to produce expressions are relatively well established. The field of study of emotional expressions and their perception has burgeoned in recent years, both in neuro-imaging as well as behavioral laboratories. Yet, and somewhat dismayingly, there is little knowledge concerning the dynamics of facial expression let alone the mechanisms of emotional expression perception. Further, although several depictions of 'expression perception space' are extant, no real consensus has been forthcoming. We report progress on a novel theoretical approach based on certain fundamental concepts from differential geometry. It appears these a cognate formalisms from topology and dynamic systems may permit a unified theory which bears on the action and perception dynamics as well as geometric representations.

Ungrouping grouping: Towards a taxonomy of perceptual grouping processes [Q1]

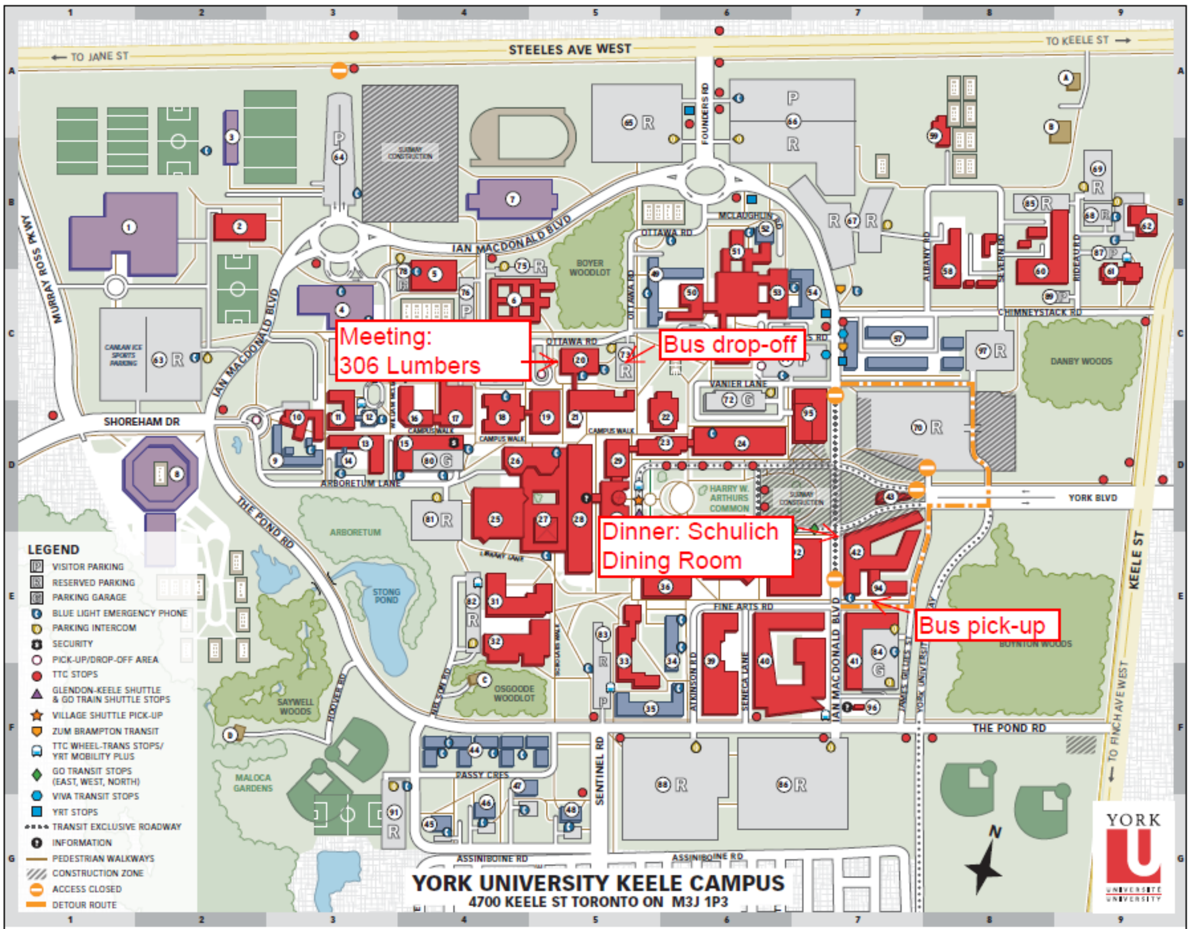
Johan Wagemans
University of Leuven, Belgium

Perceptual grouping is often treated as if it is a single process but it is not. In different areas of perception research, authors mean a great variety of conceptually distinct processes when they refer to “grouping”. Here, I will try to distinguish at least three fundamentally different cases, with an increased level of processing and more explicit representation of structure. First, “clustering” refers to the process of treating individual items as members of a larger ensemble, basically extracting their common feature (e.g., orientation) and ignoring others (e.g., position). A prototypical case is texture grouping. Second, “linking” refers to the process of connecting individual items in specific ways, often as a sequential spreading of pair-wise couplings. A prototypical case is contour grouping. Third, “configuring” refers to the process of organizing individual items in larger, structured wholes or Gestalts. A prototypical case is what happens in mirror symmetry detection. Such a taxonomy not only helps to avoid confusion in the literature. It also provides conceptual building blocks for a more refined theory of perceptual grouping, in which different processes and representations can be identified and tested, for instance, regarding what happens to the features of the elements that are grouped.

A multi-channel model of holistic processing based on self-organising principles [Q 2, 3]

Guy Wallis
University of Queensland

Evidence from developmental, behavioural, and electrophysiological studies suggests that the recognition and representation of faces is subserved by specialist cortical processes and sub-regions, separate from those involved in object recognition. This dichotomy is reflected in a lack of overlap between models of face and object recognition. Models of face processing have traditionally focussed on behaviours thought to be unique to face recognition such as the prototype, configural, and holistic effects, and face-specific adaptation after-effects. Currently, the most widely accepted theory of object recognition is based not on the norm-based encoding models of face processing, but rather, on abstract features whose size and complexity increase over a series of competitive, hierarchical stages. Despite the fundamentally piecewise nature of such a model, I explain how effects such as prototyping, configural and holistic coding, are all emergent properties of such a system when one considers the impact of learning. The ideas are backed up by novel behavioural results and simulation of an unsupervised competitive network. The results highlight how the peculiarities of face processing can be seen as an inevitable consequence of our intense exposure to faces.



CAMPUS DIRECTORY

ACADEMIC, ADMINISTRATIVE & COMMERCIAL BUILDINGS

59	190 Albany Road	ALB	A8
92	Accolade East	ACE	E7
93	Accolade West	ACW	E6
95	Archives of Ontario*	AO	D7
33	Atkinson	ATK	E5
29	Behavioural Science	BSB	D5
41	**Bennett Centre for Student Services, Admissions**	BCS	E7
24	Bookstore, York Lanes	YL	D6
10	Calumet College	CC	D3
27	Central Square	CSQ	D5
58	Central Utilities Building	CUB	B8
38	Centre for Film & Theatre	CFT	E6
16	Chemistry	CB	D4
62	Computer Methods Building**	CMB	B9
26	Curtis Lecture Halls	CLH	D5
6	East Office Building	EOB	C4
94	Executive Learning Centre	ELC	E7
21	Farquharson Life Sciences	FRQ	D5
50	Founders College	FC	C6
31	Health, Nursing & Environmental Studies	HNE	E4
32	Ignat Kaneff Building, Osgoode Hall Law School	OSG	E4
36	Joan & Martin Goldfarb Centre for Fine Arts	CFA	E5
61	Kinsmen	K	C9
19	Lassonde Building	LAS	D5
90	Life Sciences Building	LSB	C4
43	Lorna R. Marsden Honour Court & Welcome Centre•	HC	D7
20	Lumbers	LUM	C5
51	McLaughlin College	MC	B6
11	Norman Bethune College	BC	D3
17	Observatory, Petrie	PSE	D4
17	Petrie Science & Engineering	PSE	D4
60	Physical Resources Building	PRB	B9
28	Ross Building	R	D5
25	Scott Library	SCL	D4
27	Scott Religious Centre, CSQ	SRC	D5
40	Seneca @ York, Stephen E. Quinlan Building**	SAY	E7
42	Seymour Schulich Building	SSB	E7
2	Sherman Health Science Research Centre	SHR	B2
18	Steacie Science & Engineering Library	STL	D4
22	Stedman Lecture Halls	SLH	D6
13	Stong College	SC	D3
23	Student Centre	STC	D6
4	Tait McKenzie Centre	TM	C3
39	Technology Enhanced Learning	TEL	E6
96	Temporary Welcome Centre		F7
56	Vanier College	VC	C6
30	Vari Hall	VH	D5
5	West Office Building	WOB	C4
15	William Small Centre	WSC	D4
53	Winters College	WC	C6
24	York Lanes	YL	D6
95	York Research Tower	YRT	D7

RESIDENCES & APARTMENTS

48	320 Assiniboine Road	AS2	G5
47	340 Assiniboine Road	AS4	F4
46	360 Assiniboine Road	AS6	G4
45	380 Assiniboine Road	AS8	G4
34	Atkinson Residence	AR	E6
12	Bethune Residence	BR	D3
9	Calumet Residence	CR	D3
49	Founders Residence	FR	C5
57	Harry Sherman Crowe Housing Co-op**	HCC	C7
44	Passy Gardens, 2–18 Passy Cres.	PASSY	F4
35	The Pond Road Residence	PON	F5
14	Stong Residence	SR	D3
52	Tatham Hall	TH	B6
55	Vanier Residence	VR	C6
54	Winters Residence	WR	C7

PARKING GARAGES – VISITORS

80	Arboretum Lane Parking Garage	ARB	D4
84	Student Services Parking Garage	SSP	E7
72	York Lanes Parking Garage	YLP	D6

PARKING LOTS – VISITORS

83	Atkinson Lot	E5
66	Founders Road East Lot	A6
64	Northwest Gate Temporary Lot	B3
79	Thompson Road Lot	C4
71	Vanier Lot	C7
76	West Office Building East Lot	C4
89	Physical Resources Building South Visitor Lot	C9
87	Kinsmen Lot	B9

PARKING LOTS – RESERVED

67	Albany Road Lot	B7
83	Atkinson Lot	E5
97	Chimney Stack Lot	C8
75	East Office Building Lot	B4
66	Founders Road East Lot	A6
65	Founders Road West Lot	A5
81	Library Lot	D4
73	Lumbers Lot	C5
82	Nelson Road Lot	E4
91	Passy Crescent Lot	G3
85	Physical Resources Building North Lot	D7
68	Physical Resources Lot	B9
69	Rideau Road Lot	B9
88	Sentinel Road Lot	F6
63	Shoreham Drive Lot	C2
74	Steacie Lot	C4
77	Tait McKenzie Lot	C3
86	The Pond Road East Lot	F7
71	Vanier Lot	C7
78	West Office Building West Lot	C4
70	York Boulevard Lot	B8

VISUAL PERFORMANCE ARTS FACILITIES

92	Art Gallery of York University	ACE	E7
37	Burton Auditorium•	BU	E6
92	Gales Gallery	ACW	E6
38	Joseph G. Green Studio Theatre	CFT	E6
92	McLean Performance Studio	ACE	E7
92	Price Family Cinema	ACE	E7
92	Sandra Faire & Ivan Fecan Theatre	ACE	E7
92	Tribute Communities Recital Hall	ACE	E7

SPORT & RECREATION FACILITIES

1	Canlan Ice Sports*	ICE	B1
4	Tait McKenzie Centre	TM	C3
8	Tennis Canada – Rexall Centre*	TC	D2
7	Track & Field Centre*	TFC	B4
3	York Stadium	STA	A2

HISTORICAL HOUSE

C	Hart House	HH	F4
D	Hoover House	HOH	F2
B	Stong Barn	SB	A9
A	Stong House	SH	A9

* Shared use
** Non-York facility
• Temporarily Closed

Please visit www.yorku.ca/mapskeele for the most up to date version of the campus map

JANUARY 2012