Aesthetic experience is currently viewed as a special, psychological process involving attention focused on the object and the suppression of everyday concerns (see Cupchik & Winston, 1996). According to Schopenhauer, everyday consciousness is in the service of the will, but if the intellect can temporarily subdue the will, a state of disinterested detachment can be achieved in which aesthetic experience can be suitably contemplated. 

Beardsley’s (see 1958, 1966) theory represents the most fully developed modern notion of aesthetic experience as a distinct process. He follows in the tradition of “disinterested”, arguing that it involves affect that is slightly detached and a sense of freedom from concerns about past and future. But he did not posit a special mental function or faculty that produces disinterest. Rather, it emerges from existing cognitive functions and processes. Modern psychological aesthetics has incorporated the themes that developed through Shaftesbury, Hutcheson, Kant, Schopenhauer and Beardsley and formulated aesthetic experience as a special kind of experience in which pleasure is produced by the disinterested contemplation of objects.
One implication of this formulation is that adopting an aesthetic viewing orientation may require an intentional shift to overcome the automatic cuing of semantic categories and to reinvest attention in sensory experience elicited by the stylistic properties of artworks (Cupchik, 1992; Cupchik & Winston, 1996). The Russian Formalists understood that everyday perceptual activity leads to automaticity and “habituation”. Shklovsky (1917/1988) expressed these ideas very clearly: “The purpose of art is to impart the sensa
tion of things as they are perceived and not as they are known... Art is a way of experiencing the artfulness of an object. The object is
not important” (p. 20). Because subjects untrained in the visual arts automatically apply the object-identification habit to viewing art-
works (Cupchik & Gebotys, 1988; Cupchik, Winston, & Herz, 1992; Winston & Cupchik, 1992), this suggests that top-down control
gear ed toward attenuating this habit may be necessary to engage in aesthetic perception. Much evidence links the lateral prefrontal
cortex (PFC) to cognitive control (Burgess, Dumontheil, & Gilbert, 2007; Ridderinkhof, Ullsperger, Crone, & Nieuwenhuis, 2004; Sakai
& Passingham, 2003; Simons, Schölvinck, Gilbert, Friston, & Fiez, 2006; van Veen & Carter, 2006). Prima facie, in subjects untrained in
the visual arts, the lateral PFC would appear to be a critical struc-
ture for orienting the cognitive and perceptual apparatus toward aesthetic perception. A second implication of the formulation is that aesthetic perception requires the active integration of physical sensory properties that constitute style to construct unified image structures (Arnheim, 1971). Palmer (1999) has contrasted two processes of “region segmentation” whereby images are divided into mutually exclusive and therefore distinguishable areas. A boundary-based approach to region segmentation involves the application of edge-detection algorithms that focus on luminance edges to locate closed contours. In contrast, a Gestalt-based treatment of segmenta-
tion assumes a more global approach to “grouping” discrete ele-
ments based on common properties and “mutual attraction”. Precisely this distinction was made in the early 20th century by
Wolfflin’s (1950/1915) description of the psychological processes underlying the “linear” (e.g., hard-edge Neoclassical) versus “painterly” (e.g., soft-edge Baroque) dimension of artistic style. This contrast is between “outline and surfaces” and “mere visual appearance” (Wolfflin, 1950/1915, p. 14). In operational terms, this is equivalent to a contrast between edges (Hubel & Weisel, 1962) or luminance, line ends, tilt, curvature (Treisman, 1985) and elon-
gated blobs (Julesz, 1981) or spatial frequencies (Graham, 1981). Multimodal scaling studies of same-difference judg-
ments involving pairs of paintings representing diverse styles have shown that the hard-edge and soft-edge distinction is fundamental and prior to representational-abstract discriminations (Berlyne & Ogil-
vie, 1974; Cupchik, 1974, 1976–1977). Whereas hard-edge paint-
ings use contours to clearly define boundaries and isolate objects, soft-edge paintings have porous boundaries that engage viewers in an attempt to resolve forms. If aesthetic experience were a function of coherent image construction, then one would expect soft-edge paintings—virtue of containing ill-defined forms—to facilitate aesthetic experience by stimulating active image con-
struction. Given the role that the parietal lobes are known to play in the generation of abstract mental imagery (see Cavanna & Trim-
ble, 2006; Goebel, Khorraram-Sefat, Mukll, Hacker, & Singer, 1998), one would expect their engagement in aesthetic perception. This prediction is consistent with the results of a recent study in which activation in the precuneus was linked to the generation of mental imagery while subjects viewed paintings that lacked recognizable content, compared to a condition involving paintings that were rich with suggestive objects (Fairhall & Ishai, 2008). We contend that the two implications outlined above are not incompatible, but, rather, complementary (see Cupchik & Winston, 1996). The essential idea is that percepts develop from the global in the direction of the particular (Navon, 1977). This was proposed in the 1920s by researchers of the Aktualgenese (perceptual microgen-
esis) school who believed in the “intrinsic structur edness of per-
ception” (see Flavell & Draguns, 1957) and reiterated by Neisser’s (1967) notion that a pre-attentive stage of global processing is fol-
lowed by a focal attentive stage during which the details of stimuli are identified. The physical/sensory information, derived from pre-
attentive processing during the first glance, provide an expressive context within which more detailed features are perceived (Cupchik & Winston, 1996; see also Mills & Larson, 2008). This information includes first-order visual elements such as colour, tone, or texture, second-order properties related to collative properties (Berlyne, 1971) such as complexity and orderliness, and Gestalt properties including symmetry, good figure, harmony and contrast. After just a single glance at a painting (50 ms exposure), partici-
ants were able to discern the relative orderliness of two paintings and decide against a second viewing of High Arousal paintings with conflicting ordering principles (Cupchik & Berlyne, 1979). After longer exposure (4 s) or iterations of 10+ s, participants disposed to absorption in art, music, literature and so on, favored multilayered images that evoked personal memories and thoughts about per-
sonal growth (Cupchik & Gignac, 2007). This complementarity is also embodied in Leder, Belke, Oeberst, and Augustin’s (2004) recent information-processing model for the computation of aesthetic experience. Briefly, this model is com-
prised of five information-processing stages (perceptual analyses, implicit memory integration, explicit classification, cognitive mas-
tering, evaluation) that are connected in sequence and through feedback loops. The final stage in this model (i.e., evaluation) in-
volves appraising the meaning or interpretation placed on the art-
work during cognitive mastering and generating two outputs: aes-
thetic judgment and aesthetic emotion. These evaluations con-
stitute the endpoints of aesthetic experience. A critical feature of Leder et al.’s model involves the context within which the object is viewed. Specifically, for the predictions of the model to hold, the person must engage the object as a work of art. While engagement is not sufficient for aesthetic evaluation, it is a necessary condition for aesthetic experience to occur. This is in line with our viewpoint that aesthetic experience necessitates an intentional orienting of perception toward distilling the prop-
erties of artworks. Moreover, the first stage in the model involves a stimulus-driven analysis of perceptual features, highlighting the role that bottom-up processes play in image construction. Thus, Le-
der et al.’s (2004) model creates a framework within which top-
down and bottom-up influences interact to generate aesthetic experiences. We relied on neural evidence to determine the relative contribu-
tion of intentional (top-down) and constructive (bottom-up) pro-
cesses to aesthetic experience. Recently, Höfel and Jacobsen (2007)
employed event-related brain potentials to tackle a similar question. In one condition they instructed subjects to simply view graphic pat-
terns, whereas in another condition they instructed subjects to con-
template the beauty of those graphic patterns. The neural data revealed that while subjects engaged spontaneously in symmetry analysis in both conditions, evaluative categorization required con-
templation and did not occur spontaneously. This demonstrates that when people contemplate the aesthetic properties (i.e., beauty) of visual images, a different set of neural processes is engaged than when they merely view the same visual images. In the present study, we instructed subjects to view paintings in the scanner for 10 s each under object-identification and aesthetic viewing orientations. We predicted that lateral PFC would be acti-
vated relatively more in the aesthetic viewing orientation, due to the increased need to exercise cognitive control to direct attention in that condition. In contrast, we predicted that structures known to mediate object recognition would be activated more under the
object-identification viewing orientation, particularly the fusiform gyrus (see Fairhall & Ishai, 2008). We also predicted that soft-edge paintings would facilitate aesthetic perception, and that this process would be mediated by the parietal lobes. Finally, we were interested in examining the role of the experience of emotion in aesthetic perception. Given that artists seek to evoke subjective reactions to their works in the viewer, we predicted that aesthetic perception would be more likely to engage the brain’s emotional circuitry, especially in structures related to the experience of emotion such as insula (Critchley, Wiens, Rotstein, Ohman, & Dolan, 2004; Critchley et al., 2005; Damasio et al., 2000) and the orbitofrontal cortex (OFC) (Kringelbach & Rolls, 2004).

2. Method

2.1. fMRI study

2.1.1. Subjects

We recruited 16 right-handed subjects (8 males, 8 females) with normal vision and no formal training in visual arts. The institutional review board at the University of Toronto approved the experimental protocol, and all subjects gave written informed consent.

2.1.2. Materials

Each stimulus was presented once in the course of the experiment. The experimental stimuli consisted of 32 representational paintings in social (8 × group portrait and nudes) and non-social (8 × still-life and landscape) motifs. To control for the activation of background knowledge, previous studies had employed abstract graphic geometric patterns as stimuli (Höfel & Jacobsen, 2007; Jacobsen, Schubotz, Höfel, & von Cramon, 2006). We chose to rely on representational paintings instead because they are better suited than abstract graphic geometric patterns for affective evocation as well as object recognition, which formed the primary foci of our study.

The representational paintings were presented in four blocks, with eight paintings in each block (2 × nude, group portrait, landscape, still-life). Two experimental blocks included paintings executed in a linear, hard-edge style emphasizing contour and composition, and two experimental blocks included paintings executed in a painterly, soft-edge, and expressive style (Berrlyne & Ogilvie, 1974; Cupchik, 1974, 1976–1977).

The higher-order ability to discriminate contour has been shown to underlie musical as well as spatial judgment (Cupchik, Phillips, & Hill, 2001), consistent with the central role played by the resolution of contour (i.e., outline) in discriminating fractal qualities in the style of gestural expressionist painters such as Jackson Pollock or members of the Quebec Automatiste school (Mureika, Cupchik, & Dyer, 2004; Mureika, Dyer, & Cupchik, 2005).

The stimuli in the baseline blocks consisted of 16 non-representational paintings (8 × fractal paintings by the American gestural expressionist artist Jackson Pollock, non-fractal paintings by the Israeli scholar Dr. Tson Avital [Mureika et al., 2004; Mureika et al., 2005]). The non-representational paintings were also presented in four blocks, and each block consisted of four stimuli (2 × Jackson Pollock, non-fractal paintings by Dr. Tson Avital). While lacking representational content, non-representational paintings incorporate variations in colour, shape, and form. Therefore, comparing each experimental condition with the baseline condition served to isolate areas involved in viewing representational content under varying task instructions.

2.1.3. Procedure

Prior to entering the scanner, subjects received thorough instructions on pragmatic and aesthetic viewing orientations. Specifically, for the pragmatic condition, they were instructed to apply an everyday informational criterion for viewing the paintings, and to approach the images in an objective and detached manner to obtain information about the content of the painting and visual narrative. In contrast, for the aesthetic condition, they were instructed to approach the paintings in a subjective and engaged manner, experiencing the mood of the work and the feelings it evokes, and to focus on its colours, tones, composition, and shapes. Note that neither condition required subjects to make any behavioural response in the scanner. Following instructions, subjects were given two practice trials under each condition to familiarize themselves with the process. The paintings used in the practice trials were not used in the experiment.

Once inside the scanner, the experiment was conducted in eight blocks: Four blocks involving the representational paintings (i.e., experimental) and four blocks involving the non-representational paintings (i.e., baseline). Across pairs of subjects, the order of blocks was counterbalanced. The first block immediately following practice trials involved non-representational paintings. The four non-representational blocks were interspersed between the four representational blocks of paintings.

The non-representational blocks served as baseline for the viewing of visual materials. The non-representational blocks were not accompanied by instructions to engage in any viewing orientation. Subjects were instead instructed not to engage in aesthetic or pragmatic perception while viewing the non-representational images. Images were presented using a rear projection screen inside the magnet. Viewing instructions were presented for 5 s. Each trial was initiated by a 1000 ms display of four “+”s at the centre of the viewing screen, and followed by a 200 ms blank screen. Each stimulus was presented for 10 s, followed by a 500 ms blank screen. Blank screens were inserted for backward masking.

2.1.4. fMRI data acquisition and analysis

All MRI data were acquired at a field strength of 1.5 T using a General Electric Signa scanner equipped with high-speed gradients. A high resolution 3D T1-weighted scan of each subject’s brain anatomy was acquired with a 256 × 256 matrix, field-of-view = 20 cm, covering the brain with 60 axial slices at a slice thickness of 2.2 mm. Functional images were acquired using a spiral-out sequence (Glover, 1999) with a 64 × 64 matrix, field-of-view = 20 cm, covering the brain with 28 axial slices at a slice thickness of 4.5 mm. Each fMRI scan consisted of 3 initial frames to allow the magnetization to reach equilibrium, followed by 286 frames of data acquired at a repetition time of 2.24 s (total scan time 10.5 min). Images were smoothed using a 7.6 mm FWHM Gaussian kernel. We collapsed across content levels (nude, group portrait, landscape, still-life) for all analyses. Therefore, the design included three factors: Orientation (pragmatic, aesthetic), painting style (representational, non-representational), and edge (hard, soft). A regressor was created to model the BOLD response to each representational block compared to all other conditions. Thus, a two-factor ANOVA analysis using all four regressors completely models the BOLD response to representational images (modulated by orientation and edge) relative to the baseline response to non-representational images. The frames corresponding to viewing instructions were excluded from the analysis. Each regressor was shifted by 6 s to account for the hemodynamic delay.

The fMRI data were analyzed using AFNI (Cox, 1996). The two-factor ANOVA analysis was performed on each subject’s data using the AFNI program 3dDeconvolve. Contrasts of interest included viewing orientation (pragmatic, aesthetic), painting style (representational, non-representational), and edge (hard, soft). After transforming each subject’s results into Talairach space, the results of each contrast of interest were averaged over subjects and a final t-test statistic map was calculated (corresponding to a random-effects analysis with subject as a random factor). Clusters of voxels
are reported as significant if the spatial extent of the activation exceeded a threshold of \( t > 2.1 \) and 4500 mm\(^3\) volume, and the activation survived whole-brain family-wise correction for multiple comparisons (FWE). This corresponds to a map-wise one-sided \( p \) value of .05 according to AFNI’s AlphaSim Monte Carlo simulation.

For our specific a priori hypotheses, we conducted the requisite region-of-interest (ROI) analyses. The ROI were selected based on earlier published reports, centred on peaks of maximum activation with a spherical radius of 10 mm. Specifically, we show the amplitude of the response during the relevant experimental conditions within lateral PFC (−39, 57, 3 and 39, 54, 15; Simon et al., 2006), insula (30, 26, 12; Di Dio, Macaluso, & Rizzolatti, 2007), OFC (−2, 36, −22; Kawabata & Zeki, 2004), superior parietal lobule (−25, −54, 52; Goebel et al., 1998), and fusiform gyrus (38, −57, −19 and −35, −56, −21; Fairhall & Ishai, 2008). We did not use any threshold for the reported signal changes (i.e., we report raw signal changes compared to baseline).

2.1.5. Post-scan behavioural study

Recall that while in the scanner, subjects were not instructed to make behavioural responses to the stimuli. The decision not to collect behavioural responses in the scanner was made to facilitate maximal immersion in the task. To ensure that subjects engaged in the task as instructed, we relied on thorough instructions and the completion of practice trials prior to data collection. Nevertheless, immediately following the completion of the scans, each participant completed a modified version of the task outside of the scanner. Specifically, each participant viewed the same representational stimuli under the aesthetic and pragmatic viewing orientations, presented in the same block structure as in the scanner. Stimulus presentation was self-paced. After viewing each stimulus subjects were asked “Did the image evoke emotion in you?” to which they responded using a 7-point scale ranging from 1 (not at all) to 7 (extremely). We also recorded reaction time (RT). We analyzed these data as part of our task analysis to determine whether emotion evocation is facilitated in relation to viewing soft-edge paintings in the aesthetic orientation, compared to viewing hard-edge paintings in the pragmatic orientation.

3. Results

3.1. Post-scan behavioural study

First, we conducted an ANOVA with viewing orientation (pragmatic, aesthetic), edge (hard, soft), and image (nude, group portrait, landscape, still-life) as within-subjects variables, and RT to make emotion ratings (i.e., Did the image evoke emotion in you?) as the dependent variable. None of the main or interaction effects reached significance. Next, we repeated the above analysis but with the actual emotion ratings as the dependent variable. Confirming our prediction, the interaction between viewing orientation and edge was significant, \( F(1,15) = 9.42, p < .01 \). Although neither simple main effect reached significance, in accordance with our prediction there was a trend for soft-edge images to receive higher emotion ratings in the context of the aesthetic than pragmatic viewing orientation.

3.2. fMRI study

3.2.1. Viewing under aesthetic and pragmatic conditions

We first conducted an overall contrast between all experimental (pragmatic and aesthetic) versus baseline trials. This analysis revealed activation in a distributed network including left insula (−35, 17, 6; \( t = 4.33 \)) (BA 13), left cingulate gyrus (−1, 11, 42; \( t = 4.06 \)) (BA 32/24), left lingual gyrus (−37, −78, −2; \( t = 5.94 \)) (BA 19), and right inferior temporal gyrus (31, −72, −7; \( t = 5.68 \)) (BA 37/19) (Fig. 1).

Next, we conducted a set of planned contrasts, geared toward testing specific a priori hypotheses within designated ROI. We discuss our structures of interest within those ROI, but for the sake of completeness also report activations elsewhere in the brain if they exceeded a threshold of \( t > 2.1 \) and 4500 mm\(^3\) volume and survived whole-brain FWE correction. For each ROI we illustrate the amplitude of the response (i.e., percent signal change) during the relevant experimental conditions.

3.2.2. Viewing under aesthetic or pragmatic conditions

We contrasted the aesthetic and pragmatic task conditions individually versus the baseline condition. For the aesthetic-baseline contrast we predicted activations in OFC and insula. Results revealed activation in right (39, 21, 6; \( t = 4.93 \)) and left (−37, 24, 9; \( t = 4.15 \)) insula (BA 13) (Fig. 2). For the pragmatic-baseline contrast we predicted activation in the fusiform gyrus, and the results revealed activation in right fusiform gyrus (27, −52, −19; \( t = 3.80 \)) (BA 37) (Fig. 3). In addition, significant activations were detected in the bilateral occipital gyri in the aesthetic (33, −76, −4; \( t = 6.01 \); −38, −80, 0; \( t = 3.48 \)) (BA 18/19) and pragmatic (30, −77, −6; \( t = 4.10 \); −42, −75, −10; \( t = 6.64 \)) (BA 19) conditions compared to baseline.

3.2.3. Engaging in aesthetic perception

For the direct comparison of aesthetic and pragmatic conditions we predicted activation in lateral PFC (−44, 37, 7; \( t = 3.50 \)) (BA 10) was rel-

Fig. 1. Categorical contrast between the experimental (aesthetic, pragmatic) and baseline conditions revealed significant activation in a distributed network including (a) left insula (−35, 17, 6) (BA 13), left lingual gyrus (−37, −78, −2) (BA 19), right inferior temporal gyrus (31, −72, −7) (BA 37/19), and (b) left cingulate gyrus (−1, 11, 42) (BA 32/24). Parametric maps superimposed on to axial (a) and sagittal (b) MRI. Images are presented in radiological orientation. All AFNI coordinates converted into true Talairach coordinates. The colour bar indicates \( T \)-value.
atively higher in the aesthetic than pragmatic condition (Fig. 4). The reverse contrast did not reveal any significant area of activation.

3.2.4. Hard-edge versus soft-edge paintings

For the direct contrast of soft versus hard-edge paintings we predicted activation in the superior parietal lobule, and the results revealed significant activation in left superior parietal lobule (−20, −37, 43; t = 5.82) (BA 7). The reverse contrast did not reveal any significant area of activation. Importantly, to test whether soft-edge paintings facilitate aesthetic experience, we contrasted viewing soft-edge paintings under the aesthetic condition to viewing hard-edge paintings under the pragmatic condition. The results revealed that the left superior parietal lobule (−34, −40, 57; t = 3.63) (BA 7) was activated relatively more when subjects viewed soft-edge paintings under the aesthetic condition than hard-edge paintings under the pragmatic condition (Fig. 5). The reverse contrast did not reveal any significant area of activation.

4. Discussion

The aesthetic and pragmatic conditions were accompanied by explicit instructions requiring interaction with paintings from a particular orientation. In contrast, the baseline condition was not accompanied by such instruction as subjects were asked to simply view the images. The contrast involving the pragmatic and aesthetic conditions versus the baseline condition revealed activation in a distributed network including left insula (BA 13), left cingulate gyrus (BA 32/24), left lingual gyrus (BA 19), and right inferior temporal gyrus (BA 37/19). We attribute activations in left insula and left cingulate gyrus in the experimental conditions to engagement in the task, as both structures have been shown to be activated across a wide set of paradigms whenever subjects engage in tasks relative to baseline conditions (Dosenbach et al., 2006). In addition, activations in right inferior temporal gyrus (BA 37/19) and left lingual gyrus (BA 19) can be attributed to mnemonic processing (Fletcher & Henson, 2001) while viewing representational paintings (Vartanian & Goel, 2004), respectively.

To test whether the experience of emotion plays a larger role in the context of aesthetic perception, we contrasted the aesthetic and pragmatic task conditions individually versus the baseline condition. We expected to observe activations in OFC and/or insula in the aesthetic-baseline contrast. The results revealed activation in bilateral insula (BA 13) only (Fig. 2). We attribute this activation to the experience of emotion while viewing paintings, consistent with the role of the insula in the feeling of emotion (Critchley et al., 2004, 2005; Damasio et al., 2000). Interestingly, a recent fMRI
study by Di Dio et al. (2007) showed the right anterior insula to be activated when subjects viewed objectively beautiful sculptures, compared to a condition in which the sculptures were modified to be less proportional. The authors proposed that positive feelings elicited by viewing the canonical sculptures was mediated by a cortical network involving the anterior insula. We believe that the insula may play a similar role in our study, where feelings are evoked in response to viewing paintings, although given insula’s involvement in the experience of positive and positive emotions we make no claim about the valence of the emotions experienced by our subjects (see Phan, Wager, Taylor, & Liberzon, 2002).

In contrast, the pragmatic-baseline contrast revealed activation in right fusiform gyrus (BA 37) (Fig. 3). We attribute this activation to object recognition in representational paintings, including faces (Grill-Specter & Malach, 2004), and visual and spatial search for imposing situational models on pictorial scenes (Siebold, Ferstl, & von Cramon, 2007). In addition, bilateral occipital gyri were activated more in the aesthetic (BA 18/19) and pragmatic (BA 19) conditions compared to baseline, which we attribute to greater load placed on the visual system when processing higher levels of visual detail in representational paintings.

This study was conducted to address a specific question that we raised at the beginning of this paper: What are the processes that distinguish perception geared toward aesthetic experience from perception geared toward object identification? More specifically, does adopting the aesthetic viewing orientation require cognitive control, or is it the case that aesthetic perception is facilitated as a function of the perceptual features of the stimuli? The results suggest that aesthetic perception involves both processes.

First, the direct comparison of aesthetic and pragmatic conditions resulted in activation in left lateral PFC (BA 10) (Fig. 4). We attribute this activation to top-down control in directing perception toward aesthetic orientation, consistent with the role of lateral PFC (BA 10) in top-down control of cognition (Ridderinkhof et al., 2004) and the maintenance of a main goal while performing concurrent sub-goals (Koechlin, Basso, Pietrini, Panzer, & Grafman, 1999).

This interpretation is consistent with recent evidence linking lateral PFC to higher-order self-referential processing and the evaluation of internally generated information (Burgess, Scott, & Frith, 2003). In addition, bilateral insula’s activation when subjects viewed soft-edge paintings to construct coherent images in the aesthetic condition, and hard-edge paintings to construct coherent images in the pragmatic orientation (Fig. 5). Given that soft-edge paintings facilitate flexible visuospatial exploration of the stimuli (Berlyne & Ogilvie, 1974; Cupchik, 1974, 1976–1977), we attribute the engagement of the left superior parietal lobule (BA 7) to viewers’ attempts to resolve the indeterminate forms in soft-edge paintings to construct coherent images in the aesthetic condition, consistent with the role that the parietal lobes are known to play in spatial cognition and visual imagery (Fairhall & Ishai, 2008; Marshall & Fink, 2001).

5. Conclusion

Our results highlight the role of bilateral insula in aesthetic perception and the role of right fusiform gyrus in pragmatic perception. We attribute the involvement of bilateral insula in aesthetic perception to subjective experience of emotion. In turn, we attribute the involvement of the fusiform gyrus in pragmatic perception to the identification of meaningful objects and the imposition of situational models on pictorial scenes. Furthermore, our results extend the functions of left lateral PFC in top-down control of internally oriented and self-referential goals to the domain of aesthetic perception, while highlighting the involvement of left superior parietal lobule in the process of active image construction. Supporting recent theoretical formulations (Cupchik & Winston,
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