anatomical volume images (0.742 × 0.742 × 2.73 mm voxels) and twenty-two $T2^*$ – weighted interleaved multi-shot contiguous echoplanar images (3 × 3 × 6-mm voxels), sensitive to blood oxygenation level dependent (BOLD) contrast. The images were acquired axially and positioned to cover the whole brain. Data were recorded during a single acquisition period. A total of 652 volume images were acquired over two sessions, (326 vol per session) with a repetition time (TR) of 3 s/vol. The first six volumes in each session were discarded to allow for T1 equilibration effects (leaving 320 volumes per session).

Trials from all conditions were randomly presented in a single-event design with a SOA of 10,000 msec. Each of two sessions consisted of 96 events (including rest trials) for a total of 192 events. Each session lasted 16.1 minutes. The scanner was synchronized with the presentation of every 3rd trial.

Data Analysis. Data were analyzed using Statistical Parametric Mapping, SPM 99 (Friston et al., 1995). All volumes were spatially realigned to the first volume. Head movement was less than 2 mm in all cases. A mean image created from the realigned volumes was spatially normalized to the Montreal Neurological Institute brain template (Evans a7treali3alsed usllynlinear baaly funcnditithe

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These too are not surprising to the extent that Modus Ponens is significantly faster than the other three conditional inferences (Barrouillet et al., 2000). Note too that the Modus Ponens condition is not significantly faster than the baseline condition. We will focus mostly on Modus Ponens and Modus Tollens because they are both valid forms (and thus comparable to one another) and because they both prompted a high rate of correct responses. The data from the two Inconclusive forms are based on fewer data points and are affected by strong individual tendencies (the number of correct responses for any individual participant ranged between 1 to 19 items for each of these two inference forms).

To isolate conditional inference making, we made three main comparisons. First, we compared

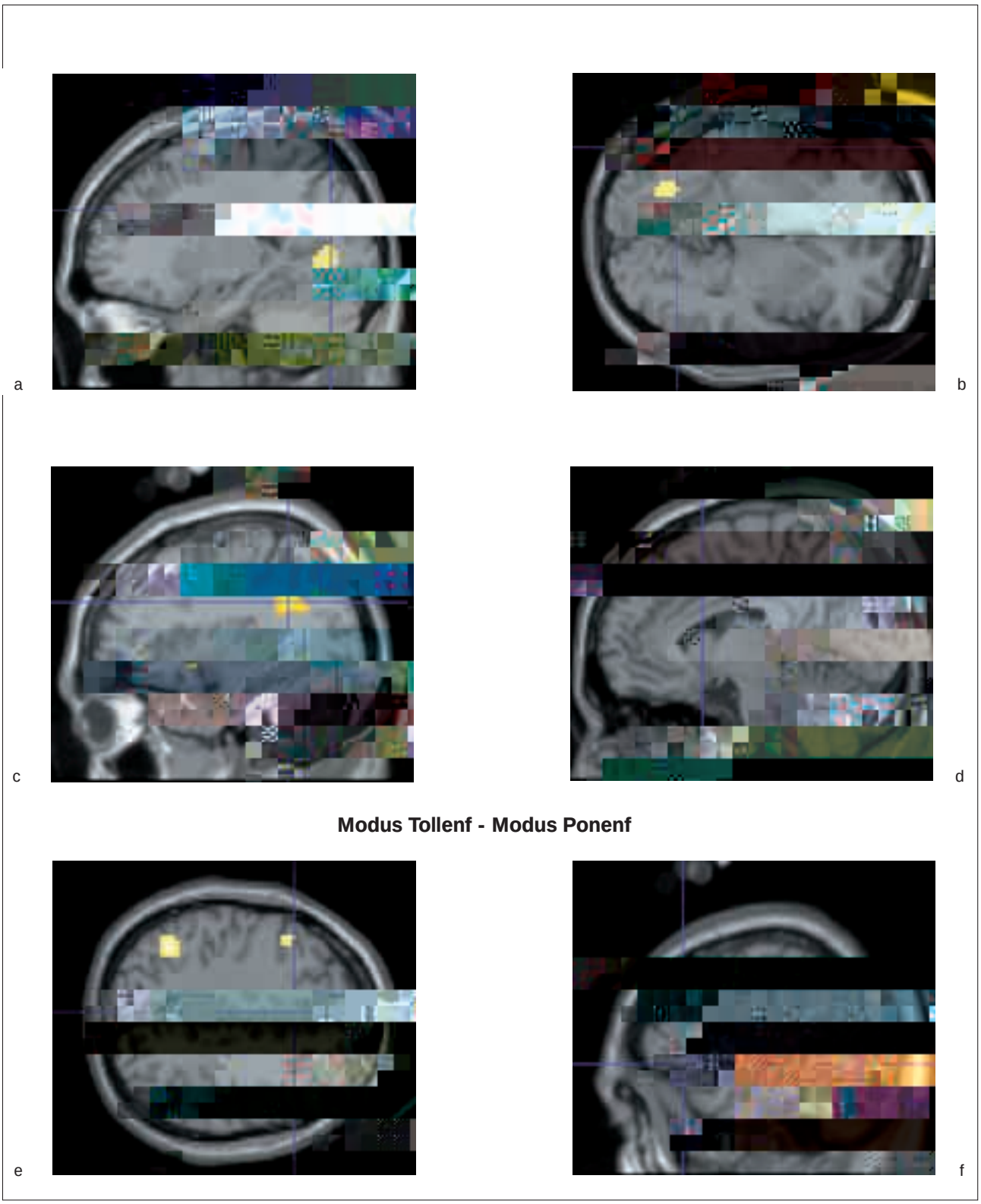

Fig. 2 - *First row (a) and (b): Modus Ponenf vs. baseline activated left superior parietal lobule (BA 7) (– 21, – 75, 30; Z = 3.78 & – 15, 72, – 27; Z = 3.46), left lingual gyrus (BA 19) (– 21, – 72, 3; Z = 3.43), and left inferior temporal lobe (BA 37) (– 48, – 63, – 3; Z = 3.30).*

Second row (c) and (d): Modus Tollenf vs. baseline activated left superior parietal lobule (BA 7) (– 33, – 51, 30; Z = 3.63 & – 15, – 51, 51; Z = 3.23 & – 24 with – 75, 27; Z = 3.48), left cingulate gyrus (BA 32) (– 6, 12, 45; Z = 3.89), left middle frontal gyrus (BA 6) (– 36, 0, 45; Z = 3.53) and left inferior prefrontal cortex (BA 47) (– 54, 15, – 9; Z = 3.64).

Third row (e) and (f): Modus Tollenf vs Modus Ponenf activated left inferior parietal lobule (BA 40) (– 39, – 54, 39; Z = 3.80), left cingulate gyrus (BA 32) (– 3, 18, 42; Z = 3.70), left dorsal lateral (BA 9) (– 45, 15, 39; Z = 3.56), and inferior (BA 47) (– 51, 24, – 9; Z = 3.15) prefrontal cortex.