i.e., the heteromodal cortex. These inconsistencies affect some of the study's findings.

Citing Mesulam (2), the article begins, "The heteromodal association cortex comprises primarily the prefrontal, superior temporal, and inferior parietal cortices." The faceplates opposite page 12 of the Mesulam text (2) show the presumed full extent of the heteromodal association cortex in humans. They depict clearly the following:

1. The heteromodal association cortex in the parietal lobe is not limited to the inferior parietal lobule. It also includes a significant portion of the posterior aspect of the superior parietal lobule.
2. The superior temporal gyrus contains primarily the unimodal (auditory) association cortex. The heteromodal association cortex does exist in the temporal lobe but is confined largely to the middle temporal gyrus (2).

Pages 32–49 of the Mesulam text (2) define further, in text form, the correct anatomical boundaries of heteromodal association cortices, as described.

Another point is that the posterior boundary of the prefrontal (heteromodal) cortex (including the inferior reaches targeted in this study) is not the precentral sulcus, as used by the authors. Rather, the boundary is the anterior border of the premotor (unimodal) cortex (2). Unlike the anterior border of the precentral gyrus, the prefrontal (heteromodal)/premotor (unimodal) border is not appreciable on structural magnetic resonance scans.

Thus, the data in the study by Dr. Buchanan and colleagues include measurements of substantial portions of the unimodal association cortex (premotor region and superior temporal gyrus) and do not take into account the heteromodal cortex in the middle temporal gyrus and superior parietal lobule. This affects some of the study's findings, since the distinction between the heteromodal and unimodal association cortices are not purely semantic. For example, in single-unit recording experiments in primates, the neurons in the unimodal (auditory) association cortex respond primarily to auditory stimuli (2). By contrast, single-unit recordings in the heteromodal association cortex identify a broad array of cells. Some respond to only one type of sensory stimulus (auditory, visual, or somatosensory), others respond to two, and still others respond in all three sensory channels (2).

These issues do not discount the authors' conclusion that the inferior parietal lobule is affected in schizophrenia but do temper claims such as negative findings in other heteromodal regions. In sum, the authors need to clarify their views on what constitutes the heteromodal association cortex in order to construct a richer study of it in schizophrenia.

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1. Buchanan RW, Francis A, Arango C, Miller K, Lefkowitz DM, McMahon RP, Barta PE, Pearlson GD: Morphometric assessment of the heteromodal association cortex in schizophrenia. Am J Psychiatry 2004; 161:322–331
2. Mesulam M: Principles of Behavioral and Cognitive Neurology, 2nd ed. New York, Oxford University Press, 2000

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Drs. Buchanan and Pearlson Reply

TO THE EDITOR: Dr. Green correctly notes that there are a number of differences between our definition of the heteromodal cortex and the one provided by Mesulam in his textbook (his reference 2). We asserted that our definition was primarily based on the definition provided by Mesulam, but we agree that the use of the word "primarily" does not provide an accurate accounting of the noted differences between the two definitions, nor does it reflect accurately how we modified the Mesulam definition in our other written descriptions of the heteromodal association cortex (1). In particular, we attempted to refine the concept based on the work of Goldman-Rakic and colleagues, who conducted a series of studies demonstrating the intimate, reciprocal structural connections between the prefrontal cortex, the inferior parietal cortex, and the superior temporal gyrus (reviewed in reference 1). These considerations have led us and other researchers to adopt a more conservative definition of the heteromodal cortex (2, 3). In addition, we would argue that the faceplate (Dr. Green's reference 2) underestimates the extent of the involvement of the superior temporal gyrus in the heteromodal cortex, as reviewed by one of us (4).

Dr. Green also observes that our definition of the prefrontal cortex includes the premotor cortex. In a previous article (5), we acknowledged the point that there is no reliable sulcal boundary between the premotor cortex and the prefrontal cortex and that our definition of the superior and middle prefrontal regions includes the supplementary motor area and the premotor cortex, respectively. We did not reiterate this point in the current article. We thank Dr. Green for giving us an opportunity to clarify these issues.

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3. Cannon TD, Thompson PM, van Erp TG, Toga AW, Poutanen VP, Huttunen M, Lonnqvist J, Standerskjold-Nordenstam CG, Narr KL, Khaledy M, Zoumalan CI, Dail R, Kaprio J: Cortex mapping reveals regionally specific patterns of genetic and disease-specific gray-matter deficits in twins discordant for schizophrenia. Proc Natl Acad Sci USA 2002; 99:3228–3233
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Psychodynamic Therapy and the *Journal*

TO THE EDITOR: I was delighted to see the essay by Glen O. Gabbard, M.D., on Sigmund Freud (1). Freud, who began his medical career as a neurologist, would have been amazed at the articles that appeared in the same issue: research on brain

function, descriptions of psychobiological mechanisms, and medications used for psychiatric disorders.

However, I think he would also have been confused that there was not a single article about psychodynamic issues or psychological treatment. As I think about it, I cannot recall any such articles in recent issues.

Last year, the Accreditation Council for Graduate Medical Education added the requirement that all residents in psychiatry must be competent in psychotherapy. If psychological treatment is to continue to be practiced by psychiatrists—and I think it must if our specialty is to survive—we must do more than give lip service to this requirement. It would help if the *Journal* would publish more articles in this area. Presentations of case histories together with discussions by experts might be a good beginning.

Reference

1. Gabbard GO: Sigmund Freud, 1856–1939 (image, psych). Am J Psychiatry 2004; 161:232

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Dr. Andreasen Replies

I am glad that Dr. Kandler enjoyed Dr. Gabbard's essay on Freud, and I concur with his point about the importance of maintaining balance in the *Journal*, including adequate coverage of psychotherapy. It is for this reason that we include Clinical Case Conferences in many issues. Quite often, these are presentations of case histories, together with discussions by experts. In addition, the book review section contains quite a large number of reviews of books on various aspects of psychotherapy and psychoanalysis. Finally, we do try to have a reasonable number of data-based articles on this topic. This issue contains several excellent articles on the topic, which we are pleased to publish, including a Clinical Case Conference concerned with psychotherapy. The following is a sampling of other articles on this topic from recent issues:

Spinelli MG, Endicott J: Controlled clinical trial of interpersonal psychotherapy versus parenting education program for depressed pregnant women. Am J Psychiatry 2003; 160: 555–562

Leichsenring F, Leibing E: The effectiveness of psychodynamic therapy and cognitive behavior therapy in the treatment of personality disorders: a meta-analysis. Am J Psychiatry 2003; 160:1223–1232

Wilhelm S, Deckersbach T, Coffey BJ, Bohne A, Peterson AL, Baer L: Habit reversal versus supportive psychotherapy for Tourette's disorder: a randomized controlled trial. Am J Psychiatry 2003; 160:1175–1177

Horvitz-Lennon M, Normand S-L T, Frank RG, Goldman HH: "Usual care" for major depression in the 1990s: characteristics and expert-estimated outcomes. Am J Psychiatry 2003; 160:720–726

Svartberg M, Stiles TC, Seltzer MH: Randomized, controlled trial of the effectiveness of short-term dynamic psychotherapy and cognitive therapy for cluster C personality disorders. Am J Psychiatry 2004; 161:810–817

We are always eager to publish high-quality articles of this type.

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