and noteworthy, and the authors adequately discuss their implications.

Perhaps because their focus was on autobiographical memory, the authors do not emphasise the implications of the DAS results, which I believe are also important. The implications are twofold. Firstly, with respect to the state v. trait marker issue, the DAS results are consistent with Beck *et al*'s (1979) cognitive theory of depression, in that dysfunctional attitudes did not significantly change as depression remitted (i.e., behaved as a trait marker would). This is particularly important in light of the controversy over whether cognitive styles are indeed trait-like depressogenic vulnerability factors (see for example, Coyne & Gotlib, 1983).

Secondly, although it is not unreasonable to compare the autobiographical memory measure to the DAS in predicting depression at follow-up, it should be noted that Beck *et al*'s (1979) theory predicts an association between dysfunctional attitudes and future depression in the presence, but not the absence, of negative life stress (see Haaga & Beck, 1992 for a recent treatment of this issue). Put differently, the theory contains a diathesis-stress component, and both the diathesis (dysfunctional attitudes) *and* the stress (negative life stress) are necessary to initiate the sequence towards depression. Because the Brittlebank *et al* (1993) study did not assess negative life stress, the study cannot speak for the validity of this aspect of the theory, neither with respect to predicting future depression, nor treatment response.

BECK, A. T., RUSH, A. J., SHAW, B. F., *et al* (1979) *Cognitive Therapy of Depression*. New York: Guilford.

COYNE, J. C. & GOTLIB, I. H. (1983) The role of cognition in depression: a critical appraisal. *Psychological Bulletin*, **94**, 472–505.

HAAGA, D. A. F. & BECK, A. T. (1992) Cognitive therapy. In *Handbook of Affective Disorders* (ed. E. Paykel), pp. 511–523. New York: Guilford.

WEISSMAN, A. N. (1979) The dysfunctional attitude scale: a validation study. Dissertation, University of Pennsylvania. *Dissertation Abstracts International*, **40**, 1389–1390B.

THOMAS E. JOINER, JR

University of Texas at Austin and
O.E. Teague Veterans' Affairs Medical Center
Psychology Service (116B)
Temple, Texas 76504 USA

Blood-letting in bulimia nervosa

SIR: In their recent article, Drs Parkin & Eagles (*Journal*, February, 1993, **162**, 246–248) wrote that "there does not appear to be any reference in the literature to deliberate blood-letting (...) in association with eating disorders". It is indeed a rare association and, in my own clinical work with eating disordered patients over the past 15 years, I have seen it only once in a nurse with chronic anorexia nervosa. Nevertheless, I have found a few references in the literature. In a comment on "Blood-letting as purging behaviour" Cosman 1986 briefly presents the case of a 26-year-old woman. In the French literature, deliberate blood-letting has been described by Jean Bernard (1969) under the term "syndrome of Lasthénie de Ferjol", named after the heroine in a 19th century French novel by Barbey d'Aurévilly. A relationship between this syndrome and anorexia nervosa has been suggested by the Flemish psychiatrist Myriam Van Moffaert (1976). Finally, the similarities have been discussed by Loloum *et al* (1985).

These French authors present the case of a 26-year-old woman with anorexia nervosa (fasting alternating with binge-eating episodes) who, during her brilliant nursing studies, started blood-letting herself several times a week.

BERNARD, J. (1969) Le syndrôme de Lasthénie de Ferjol. *Actualités Hématologiques*, **3**, 3–8.

COSMAN, B. C. (1986) Blood-letting as purging behavior. *American Journal of Psychiatry*, **143**, 1188–1189.

LOLOUM, T., SUSINI, J. R. & P. DENIKER (1985) Le syndrome de Lasthénie de Ferjol et l'anorexie mentale: de troublantes similitudes. *Annales Médico-Psychologiques*, **143**, 488–494.

VAN MOFFAERT, M. (1976) Het Syndroom van Lasthénie de Ferjol. *Tijdschrift voor Psychiatrie*, **18**, 25–34.

W. VANDEREYCKEN

University of Leuven
Leuvenselaan 85
B-3300 Tienen
Belgium

Tourette's syndrome and the amygdaloid complex

I was interested to read the thought-provoking commentary by Handley *et al* (*Journal*, March 1993, **162**, 421) on my article (Jadresic; *Journal*, October 1992, **161**, 532–534) which advocates a key role for the amygdaloid complex (AC) in Tourette's syndrome (TS).

One of their contentions is that the cadence, pitch, volume, etc., in the coprolalia of TS differs from that of purely emotionally generated obscenity and this would therefore militate against the involvement of the amygdala in TS. The verbal as opposed to the prosodic aggressive content of vocalisations raises interesting theoretical links with models of laterality in brain function. This model includes the well known association of the dominant hemisphere with verbal aspects of language and the more controversial association of non-dominant hemisphere involvement in prosodic aspects of language

(Cancelliere & Kertesz, 1990). I would argue that it is highly likely that the AC influences both the verbal and prosodic aspects of aggressive vocalisations, possibly by separate mechanisms. This issue certainly deserves further study.

A second contention relates to the strength of the evidence for a lack of emotional content in the vocalisations elicited from the cingulum. Careful reading of sources for my article will reveal the original study by Jurgens *et al* (1967) which supports this strand of evidence. This was a direct electrical stimulation experiment in 13 squirrel monkeys in which it was found that vocalisations elicited from, among other brain structures, the cingulum were identified as (neutral) contact and food calls, whereas those elicited from the amygdala group had an aggressive function.

The authors imply that the role of dopamine should be questioned because dopamine antagonists are effective in "only" 60–70% of cases. This is strikingly effective by psychiatric standards. One need only refer to the variable response of schizophrenic patients to dopamine antagonists to realise that the case for dopamine in TS is, if anything, stronger on this basis. I fully accept, as was discussed in the original article, that 5-hydroxytryptamine (5-HT) may well be directly or indirectly implicated in TS. The fact that 5-HT reuptake inhibitors produce such an unpredictable response in TS, however, argues for a more peripheral role of 5-HT.

Handley *et al* contend that the fact "that there is an input of dopamine to the amygdala is not an argument for (its) involvement (in TS) since such inputs exist to many other parts of the brain". This is a logical error. Involvement of a neurotransmitter in a disease process does not preclude that neurotransmitters' role in other parts of the brain. Their argument would negate the role of dopamine in the aetiology of schizophrenia or Parkinson's disease. It is indeed one of the advances of modern psychopharmacology that the involvement of various neurotransmitters in disease processes is conceptualised as a problem of imbalance rather than absolute excess or deficit of a particular neurotransmitter system in the brain.

The role of the cingulum in vocalisations is reasonably well established. As outlined in the original article, my hypothesis does not exclude the role of other limbic and subcortical structures in the pathophysiology of TS. Rather, the proposed model highlights the key role of the AC in the disorder, particularly with reference to the neglected aspect of the aggressive content of the vocalisation of TS.

CANCELLIERE, A. E. B. & KERTESZ, A. (1990) Lesion localisation in acquired deficits of emotional expression and comprehension. *Brain Cognition*, **13**, 133–147.

JUGENS, U., MAURUS, M., PLOOG, D., *et al* (1967) Vocalisation in the squirrel monkey (*Saimiri sciureus*) elicited by brain stimulation. *Experimental Brain Research*, **4**, 114–117.

DANITZA JADRESIC
School of Psychiatry and Behavioural Sciences
Rawnsley Building
Manchester Royal Infirmary
Oxford Road
Manchester M13 9WL

Tattooed female psychiatric patients

SIR: Inch & Huws (*Journal*, January 1993, **162**, 128–129) concluded that in their four cases of female psychiatric patients, tattoos were a stigma of sexual abuse because all four women gave a history of sexual abuse in childhood. However, they did not comment on the fact that all four patients had borderline personality disorder, and at least two were also dependent on alcohol (the status of alcohol dependence for the other two was not declared).

There are numerous theories trying to explain the association of tattoos with a specific psychiatric diagnosis. Ferguson-Rayport *et al* (1955) suggested that the tattoo's content has diagnostic significance. However, failing to find any correlation between psychiatric diagnosis and tattoo theme or content, Gittleson *et al* (1969) suggested that although its artistic content does not correlate with specific diagnosis, the mere presence of a tattoo does. Patients with a Cluster B personality disorder (DSM–III – R) (which includes antisocial and borderline personality disorders, among others) have a history of divorce, chaotic lifestyle, aggressive outbursts, impulsivity, and lack of control. The strongest association between tattoos and diagnosis is found in patients suffering from these disorders (Raspa & Cusack, 1990). Second to personality disorder, alcohol and substance abuse show strongest association with tattoos (Buhrich, 1983).

It is thought that an important function of tattoos is that they denote a sense of belonging and affiliation to an idealised group. In primitive cultures, tattoos identified a member of a particular tribe. In the West, tattoos are observed in people belonging to particular segments of society (e.g. sailors, criminals, addicts, etc.). Tattoos have been characterised as an artificial embellishment of the body boundary – a prosthetic attempt to strengthen one's sense of ego definition. Patients with borderline personality disorder have identity disturbance (DSM–III – R) and have an unstable sense of self. A need to affiliate with a group to achieve some amount of stability and identity may be fulfilled by tattooing (thus being