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REJOINDER

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I wish to thank Buja and Hastie for their interesting and stimulating remarks. In particular, Buja's improvement over my Lemmas 3.3 and 3.4 is very elegant and may be useful in other contexts. His joint work with Donnell and Stuetzle on the analysis of additive dependencies in data sounds intriguing, and I look forward to reading about it soon.

Hastie gives a brief but excellent description of the formula language in S and the ease with which it can be used in the context of linear and generalized linear models to specify main effects as polynomial splines and selected interactions in terms of the corresponding tensor products. He points out that stepwise model selection procedures are also available in S for determining which main effects and interactions to include; that is, in the notation of the present paper, for adaptively choosing $\mathcal{S}$. As he also notes, however, these facilities are not convenient for selecting the number and placement of knots. The high-level stepwise model selection facilities that are currently available in S are compatible with the spirit of the theory developed in the present paper, but not with that of methodologies such as MARS that are adaptive at the level of the individual basis functions, that is, that adaptively select the individual knots and tensor product basis functions.

Recently, in Kooperberg, Stone and Truong (1993b), the theory developed in the present paper has been modified to handle hazard regression, which can be nonproportional and which includes a smooth model for the baseline hazard function. The corresponding MARS-like adaptive methodology is described in Kooperberg, Stone and Truong (1993a). Kooperberg has written a program in C that implements this methodology and an interface based on S. The combined software is available from statlib by sending an email with the body `send hare from S` to statlib@stat.cmu.edu. Concurrently, Kooperberg and Stone (1993) described similar methodology and software for hazard estimation without covariates. Kooperberg, Truong and I are now working on the theory and methodology for logspline spectral density estimation, while Bose, Kooperberg