Ray and Jan Reply: The Comment of Albano and Monetti [1] shows that the Bak-Sneppen (BS) model [2] has many subtleties, although it is fairly straightforward to describe and easy to understand. The numerical data of Ref. [1] appear to indicate that the universality class of the BS model is not the same as directed percolation (DP), one of the conclusions of [3]. We are also aware of recent work by Jovanovic *et al.* [4] and Grassberger [5] who also arrive at this conclusion. We would like to affirm at the onset that the major emphasis in [3], the anomalous approach to the self-organized state, remains valid whether or not the BS model and DP are in the same universality class.

The claim that the BS model and DP both share the same universality class is clearly in ansatz, both in our paper and in that of Paczuski, Maslov, and Bak [6], and it should be treated accordingly. However, there are important subtleties that have shown up in our numerical studies which we feel should be carefully considered by anyone simulating the BS model. The inclusion of these features in the analysis of the numerical results led us to postulate the ansatz and a better understanding of the model.

If one simulates the BS model outright, the "gap" continually moves through the critical value x_c. As a result, measured values of the critical exponents are modified. It is straightforward to calculate this effect through scaling theory, as we have done for the cluster distribution exponent τ. Since we did not fix x_c, $\tau + \sigma$ was measured and our numerical results agreed with those expected from DP (see Fig. 4 of Ref. [3]). Note that this cluster distribution measurement is independent of the value of x_c.

Albano and Monetti have tried to nullify this "sweeping" effect which modifies the exponents (as have several other workers) by fixing the value of the gap at the beginning of the simulation, changing the survival probability of the central site to a lower value than the gap, and then allowing the system to evolve. However, as the system evolves, the gap exponent will still change to lower values, and the effect will remain. Therefore the exponents will be different at first glance from that of DP.

The results of Jovanovic *et al.* [4] and Grassberger [5] have shown that this modification persists. They have both measured the mean cluster size exponent γ, and have obtained a value of 2.7, which is quite different from that of DP, 2.28. However, when the sweeping effect is taken into consideration, this value is very close to that predicted by DP exponents, $2.28 + 0.39\,(\gamma + \sigma)$. Exact mean field studies have also confirmed this effect.

In the BS model there are important corrections to scaling. References [4] and [5] report values for τ [1.08 ± 0.05 (BS) and 1.12 (DP)] and σ [0.35 ± 0.02 (BS) and 0.39 (DP)] which are slightly different for both models. If this difference persists then our conclusion is wrong. We feel, however, that this is still an open question and will be decided by either an exact analysis or more precise numerical work which takes into account the sweeping effect mentioned above. We observe that Jovanovic *et al.* [4] have suggested that BS and DP may belong to a superuniversality class—the exponents may be different but ratios of the exponents are the same.

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