Correction to Finitary Coding of Markov Random Fields

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Lemma 2.2 of the article “Finitary Coding of Markov Random Fields” which appeared on pages 193–202 of volume 52 of this journal is false as stated. The difficulty is that “conditioning on $X(\hat{x})$ ” involves conditioning on non-occurrences of M as well as occurrences of M and boundary values. This can be circumvented by thickening the set of boundary values. Specifically, if M is an atom of $P^{B(k)}$ and E_0 is the Rohlin set with disjoint images $\sigma^i E_0$, $i \in B(N_0)$, then 0-skeleta should be defined so as to note values of the Markov random field on $B(N_0) - B(N_0 - K)$, a “boundary” of thickness K . Thus no occurrence or non-occurrence of M can influence both the inside and the outside of the boundary at once, so that Lemma 2.2 goes through. Since N_0 can be chosen large independent of K , the rest of the argument goes through without any change.