

Errata 2

Page 84, proof of 10.2 The paragraph beginning “For each $(X, a) \in B \dots$ ” has several typos—“ X ” is typed, but it should be “ A ”. Here is a (hopefully) correct version of this paragraph:

For each $(X, a) \in B$ let $g(X, a) = X$. Thus g maps B onto $\mathcal{P}(A) \setminus \{\emptyset\}$, so by the axiom of choice there is a function $h : \mathcal{P}(A) \setminus \{\emptyset\} \rightarrow B$ such that $g \circ h$ is the identity function on $\mathcal{P}(A) \setminus \{\emptyset\}$. Now define $f(X) = 2^{nd}(h(X))$ for every $X \in \mathcal{P}(A) \setminus \{\emptyset\}$. Then for any $X \in \mathcal{P}(A) \setminus \{\emptyset\}$ we have $g(h(X)) = X$, and hence by the definition of g , $h(X)$ must have the form (X, a) . So $f(X) = a \in X$, as desired.