

Corrections for  
**Logical Foundations of Proof Complexity**

Stephen Cook and Phuong Nguyen  
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- page 2 paragraph 2 line 7: ‘prime’ should be ‘a prime power’
- page 68, third last line in the proof of Theorem III.4.4:  
 $\exists \vec{y}$  should be  $\exists \vec{z}$ .
- page 69 line 2 of Exercise III.4.7:  
 $y$  should not be an argument  $B_f$ .
- page 172, five lines above Exercise VII.2.10:  
 $(m + 1)$  should be  $(r + 1)$ , and in the next line the first  $m$  should be  $r$ .
- page 185 Lemma VII.4.10:  
For  $i \geq 1$  there is a polynomial size  $G_i^*$  derivation
- page 191 line -9: delete the first occurrence of  $Y$ .
- page 197, the word ‘right’ should be ‘left’, at the end of line 5 of paragraph 2, and again at the end of line 1 of paragraph 5.
- page 273 line 5: for some  $\mathcal{L}_A^2$  term  $t = t(|X|)$  and
- page 273: formula (219) should be

$$\exists Y \leq \langle t, b \rangle \forall i < b (|Y^{[i]}| \leq t(|X^{[i]}|) \wedge \delta_F(X^{[i]}, Y^{[i]}))$$

- page 274, line 3 of Subsection IX.2.2:  
 $F^*$  instead of  $F$
- page 274, replace the two sentences preceding (220) by:  
The following axiom for  $F^*$  is strong enough to imply (219).
- page 274: Replace (220) by

$$(Y = F^*(b, X) \wedge i < b) \supset (|Y| \leq \langle t, b \rangle \wedge (|Y^{[i]}| \leq t(|X^{[i]}|) \wedge \delta'_F(X^{[i]}, Y^{[i]}))$$

page 299: Modify the displayed formula in the proof of Theorem IX.3.33 by replacing the term  $X(x, y)$  at the end by  $x \leq y$ . (Thanks to Kerry Ojakian and Shlomo Ben-Har.)

- page 404: Corollary X.2.24 (b):  
Replace 'can be' by 'is contained in the theory' ... (The reverse inclusion is unknown.)