A Course in Model theory[1]
Errata

K. Tent and M. Ziegler

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- In some places, the use of the word *either* is not justified. Even though it should not cause confusion, remove the word in Exercise 8.2.6.
- Definition 1.2.10, Footnote 5: we replace each *bound* occurrence by an unused variable.
- Exercise 2.3.1, part 2: The structure is $(\mathbb{Q}, P_r, Q_r)_{r\in\mathbb{R}}$.
- In the proof of Theorem 3.1.8, b)⇒ a) should add that $\mathfrak{A}$ and $\mathfrak{B}^0$ are models of T_1 and T_2, respectively,
- The Morleyisation of T as discussed after Definition 3.2.1should use 0-ary relation symbols. Otherwise it does not have quantifier elimination if T is consistent, incomplete and L has no constants.
- Exercise 3.2.1, part 1: For any T-ec-structure $\mathfrak{M}$...
- Theorem 3.2.5:
  In c) we may assume that $\mathfrak{A}$ is *finitely generated.* This is used in later applications.
- Proof of Theorem 3.3.22, third paragraph: Replace $g(a, da, \ldots, d^{n-1}a) \neq 0$ by $g(b, db, \ldots, d^{n-1}b) \neq 0$.
- In Exercise 3.3.1, replace
  $$\bigwedge_{i\neq j} \quad \text{by} \quad \bigwedge_{i,j}.$$
- Exercise 3.3.2: The model theoretic algebraic closure is defined in Section 5.6.
- The first pragraph of Section 4.2 misleadingly claims a connection between the Compactness Theorem and the compactness of the space of types.
- In Definition 5.2.5, do not assume that T is countable.
- Proof of Lemma 6.3.2:
  Choose $\bar{b}^{2i}$ algebraically independent over $a\bar{b}^0 \ldots \bar{b}^{2i-1}$ (not only algebraically independent over $\bar{b}^0 \ldots \bar{b}^{2i-1}$).
- Proof of Lemma 6.3.6:
  Replace

  > This implies that $\mathrm{diff}(a_1, a_2)$ only depends on $\mathrm{tp}(a_1, a_2)$.

  by

  > Independence of the model implies that $\mathrm{diff}(a_1, a_2)$ only depends on $\mathrm{tp}(a_1, a_2)$.
- Definition 8.1.1, part 1: ...there is some $m \in M$ with $\phi(x, m) \in p$.

- The definition before Corollary 7.2.7 should read: *We call q a forking extension if q forks over A.*

- Proof of Corollary 8.1.8: the formula should read

$$\models \exists x, y\ \phi(x, y, c) \wedge \phi_1(x, a', h'_1) \wedge \phi_2(y, b', h'_2).$$

- Proof of Lemma 8.3.5, last paragraph: a is a realization of $p \restriction Mb$.

- Exercise 8.3.5: A type p being stable should be defined as: *for no formula $\phi(x, y)$ there are elements $a_0, a_1, \ldots$ satisfying $p(x)$ and $b_0, b_1, \ldots$ such that $\models \phi(a_i, b_j) \Leftrightarrow i < j$.*

- Proof of Lemma 8.4.10: $\ldots c_1 \ldots c_m \in \mathrm{acl}(e)$.

- Proof of Theorem 8.5.10: in the second to last paragraph, it should read

  Let μ be the cardinal given by WEAK BOUNDEDNESS applied to p.

- Exercise 8.5.2: Let $p \in \mathrm{S}(B)$ and $q \in \mathrm{S}(B)$ be two different types which do not fork over $A \subset B \ldots$

- Before Lemma 10.4.1: …induced by M and N.

- Before Theorem 10.4.8: …we say that $M \in \mathcal{K}_\mu$ is $\mathcal{K}_\mu$-saturated if for all finite $A \leq M$ and *finite* strong extensions C of A…

- Exercise 10.4.2: It should read ....$(-1)^{|\Delta|+1}$...

- Definition B.4.10: The reader should keep in mind that we define procyclic fields to be perfect.

- After Remark C.1.1: A pregeometry in which points and the empty set are closed, i.e., in which

$$\mathrm{cl}(\emptyset) = \emptyset \quad \text{and} \quad \mathrm{cl}(x) = \{x\} \text{ for all } x \in X,$$

  is called *geometry*.

- Discussion after Definition C.1.9: Add the sentence

  Note that the proof shows that $\mathrm{trd}(K) \geq 3$ actually suffices.

- Append the following sentence to the proof of Lemma C.1.11:

  Since c cannot be in the closure of $\{a_1, \ldots, a_{n-2}\} \cup (A \cap B)$, we know by induction that $\{a_1, \ldots, a_{n-2}, c\}$ is independent over B, which contradicts $c \in B'$.

- Replace the last paragraph before Exercise C.1.11 by

  The arguments on page 205 show also that a field of transcendence degree at least 4 is not locally modular. Just replace F by a subfield of transcendence degree 1.

- Solution to Exercise 6.2.8: …and $\phi(x, a_1) \vee \cdots \vee \phi(x, a_n) \ldots$

- Solution to Exercise 7.1.3: …implies a conjunction $\bigvee_{\ell < d} \phi_\ell(x, b)$ of formulas which *divide* over A.