**ERRATA IN AND COMMENTS ON MILNE'S NOTES ON ABELIAN VARIETIES**

- p.10, $A(\mathbb{C}.)$
- p.11, $Z$ instead of $\mathbb{Z}$
- p.13, It might be helpful to mention the identity $\bigwedge^r(V \oplus W) = \bigoplus_{i+j=r} \bigwedge^i(V) \otimes \bigwedge^j(W)$ either in the proof of Theorem 2.3, where it is used implicitly, or before when you introduce the exterior product
- p.14, *but it is says*
- p.15, *on* $E$ on $X$
- p.15, polarizable *tori is*
- p.15, for a simply polarizable torus $X$
- p.18, $Im(\phi^*)$, the wrong phi
- p.18, the intersection in the proof of Lemma 3.5 should have a $U$ instead of $C$
- p.18, passing *through* $P$
- p.19, *From the (3.5)*
- p.20, the proof of 3.9 doesn't contain the case of $\mathbb{P}^1$
- p.22, $m, m, q, ..., q, 0$ should have a $p$ in it, too, for clarity
- p.23, proof of 5.4: the use of $n$ is slightly confusing, because you use it both as the induction variable, and in (2), so when you say *Take* $n = 1$, you're proving the statement for $n = 2$
- p.26, in the proof of 5.16: *see (5.10)*
- p.26, later the reference should probably be *After (5.13)*, and later 5.19 instead of 5.18
- p.29, I personally found the proof of 6.1 confusing on a first read, in particular, the existence of $D_i$
- p.33, proof of 7.2: $\mathcal{L} \otimes (-1)_A^* \mathcal{L}$ is also *very* ample
- p.33, *it is once remove*
- p.35, *Because,*
- p.35, *that that*
- p.35, $\lambda_D = (\deg D)^2 \lambda_D$
- p.35, $\lambda_{\mathcal{L}} = 0$. (the dot is missing)
- p.36, in 8.6., $C = A$
- p.36, *Picard, variety*
- p.37, in line 3, it would be good to add that $\mathcal{L}$ is defined on $A \times T$
- p.37, there is a regular map $\alpha : T \longrightarrow A^\vee$, not $A$
- p.37, *(5.37)*
- p.39, first line, $U$ should be the complement of $V \cap H$
- p.39, *nor the 2 by a 1* is slightly misleading, should be *nor by 1*
- p.40, $\phi$ should be replaced by $\lambda$
- p.40, in the last line of the first paragraph, should read $(\mathcal{L}^*)_a \approx (\mathcal{L}^*)_b$
- p.40, *it is now subgroup*
- p.40, *proved very general theorem*
- p.43, $\Phi$ instead of $\psi$ at the end of 10.2
- p.44, at the end of the proof of 10.3, the basis should be indexed by $(1, ..., d)$, not $e_1, ..., e_n$, similarly for the $e_i'$
- p.44, $A(k^{\text{sep}})(l)$ has not been defined
- p.46, *a field an arbitrary field..*
- p.46, *so it natural*
- p.46, in the second half of the page, the standing hypothesis is that $A$ is defined over $\mathbb{C}$, which should be replaced by $k$
- p.47, in 10.13, *function of degree* $2g$ *in*, should be *on*.
- p.48, in the proof of 10.13, need also to show that the polynomial is non-trivial
- p.48, in the proof of 10.9, I'm not sure how you obtained the summand $(\alpha + n_A)^* D$ in your formula for $D_n$, and the notation is a bit confusing, because it seems you take $\alpha = 1$ and $\beta = \alpha$ in the formula derived in the proof of 10.13
- p.49, *The contradicts*

- p.50, *Faltings proved in*, an *it* is missing
- p.50, a space between *group* and NS($V$)
- p.52, proof of 10.20: $k = k^{sep}$, not $k_s$
- p.52, Trd, not Tr$d$
- p.52, in 10.23, what's $\alpha$?
- p.53, *We shall that*
- p.53, the characteristic polynomial of $\alpha$, not $V_l(\alpha)$
- p.53, in *Notes*, there shouldn't be an $n$ in $A(l^n)$ (4 times), and it should be isomorphic to $(\mathbb{Q}_l/\mathbb{Z}_l)^{2\dim A}$ not $(\mathbb{Q}_l/\mathbb{Z}_l)^{\dim A}$
- p.54, the reference should be Theorem 11.1, not 10.1
- p.54, *Lefschetz traces formula*
- p.54, *then* $\mathrm{End}^0(A)$ *a division*
- p.54, later need to tensor $\mathrm{End}^0(A)$ with $\mathbb{Q}_l$ to compare to $M_2(\mathbb{Q}_l)$
- p.55, in 12.1(b): $\mathbb{Z}_l$ not $Z_l$
- p.56, *dimension if*
- p.56, the map $\bigwedge^r H^1(A,\mathbb{Z}_l) \longrightarrow H^r(A,\mathbb{Z}_l)$ is injective, not to $H^1$
- p.56, $n > 0$ *prime to* $n$
- p.56, in 12.5., $k$ separably closed was precisely the assumption of 12.1
- p.58, in 13.2(c), it should be $\alpha^*\mathcal{L}$, not $\alpha * \mathcal{L}$
- p.58, in the exact sequence, the second to last 1 should be a 2
- p.59, in the first line, should use homology, not cohomology
- p.59, in the proof of 13.5, apply the *theorem*
- p.59, it should be $e_{mn}(a, \lambda b') = e_{mn}(c, \lambda b')^n$, not $e_{mn}(c, \lambda b)^n$
- p.61, in the proof of 13.13, the quoted theorem should be (15.3), not (15.1)
- p.63, in 14.6(b): can you elaborate on how $K$ is used?
- p.63, second to last line: $\lambda \mapsto u^\vee \circ \lambda \circ u$
- p.64, second line: *the* $u^*\mathcal{L}$ should be *then*
- p.66, *we are given mapping*
- p.66, *interprete*
- p.67, in 16.1, $\alpha = f$
- p.68, in the proof of 16.4(a), $B$ is undefined
- p.68, *the images the*
- p.68, $\alpha_2(B_2)$, not $\alpha_2(B)$
- p.71, *integral of the form,*
- p.71, *a elliptic*
- p.72, $\int_\gamma \omega = a \int_\gamma \omega$ should be a sum over $i$
- p.73, $\mathbb{Z}$ instead of $Z$.