Corrections to  
by C. A. Weibel  

p.101 lines -10,-13,-16: the product ‘∗’ should be ‘◦’
p.101 line -8: exp(1 − r_nt^n/n) should be exp(−r_nt^n/n)
p.102 line 12: insert example:

**Example 4.3.3. (Chern ring)** If $A$ is a graded ring, let $W_{gr}(A)$ denote the subgroup of $W(A)$ consisting of all terms $1 + \sum a_it^i$ with $a_i \in A_i$. Then the formula

$$(1 + a_1t) \ast_{gr} (1 + b_1t) = (1 + (a_1 + b_1)t)/(1 + a_1t)(1 + b_1t)$$

extends to an associative product on $W_{gr}(A)$. (To see this, formally factor $1 + a_it^i = \prod(1 + \alpha_it)$.) Grothendieck observed that $\mathbb{Z} \times W_{gr}(A)$ is a (special) $\lambda$-ring, and that the $(1, 1 + at)$ are line elements. See [SGA6], 0\text{App}, §I.3 and V.6.1.

If $A$ is a graded $\mathbb{Q}$-algebra, the formula $ch(1 + at) = e^a - 1$ defines a ring isomorphism $ch : W_{gr}(A) \rightarrow \prod A_n$ (exercise!). Now suppose that $(1 + a_nt^n) = \prod(1 + \alpha_it)$, so that the elementary symmetric polynomials $s_k$ in the $\alpha_i$ vanish for $k < n$, and $s_n = a_n$. For $k < n$ this implies that $\sum \alpha_i^k = 0$, and $\sum \alpha_i^n = (-1)^{n-1}na_n$. It follows that the lowest term in $ch(1 + a_nt^n)$ is $\lambda^n - 1^{n-1}a_n/(n - 1)!$.

p.109 line -5: The subscripts on the sums should be $i = 1$, not $i = 0$.

p.114: insert exercise:

**4.15** If $K$ is a $\lambda$-ring with a positive structure, show that the total Chern class $\widetilde{K} \rightarrow W_{gr}(A)$ is a homomorphism of $\lambda$-rings with unit. (See Example 4.3.3.) Hint: Use the Chern roots $a_i$ of $p$ to evaluate $c(\lambda^n p)$ as a product of terms $1 + (a_{i_1} + \cdots + a_{i_n})$, $i_1 < \cdots < i_n$.

Using the $\lambda$-ring structure on $H \times W_{gr}(A)$ of Example 4.3.3, show that $K \rightarrow H \times W_{gr}(A)$, $x \mapsto (\xi, c(x))$, is a homomorphism of $\lambda$-rings with unit; see [SGA6, 0\text{App}, §I.3].

p.118 line -10: definition is due to E. Witt. (not Knebusch)

p.180 (II.9.4): ’If $B$ is cofinal in $C$’ should be ’If $B$ is saturated in $C$, and cofinal in $C$’

(saturated in $C$ means if $C_1 \rightarrow C_2$ is a w.e., and one $C_i$ is in $B$ then both are in $B$.)

p.189 (Ex. II.9.14): ’$B$ is cofinal in $C$’ should be ’$B$ is saturated in $C$, and cofinal in $C$’

p.252 l.11 (II.6.1.2): because when lead$(f) = 1$, then lead$(1 - f)$ is either

pp. 259, 260, 274, 605: ’Artin-Schrier’ should be ’Artin-Schreier’ several times

p.328 l.5-: $K^n_M F(t)$ and $K^n_M F(t)_w$ should be $\tilde{K}^{M}_{n+1} F(t)$ and $\tilde{K}^{M}_{n+1} F(t)_v$

p.318 (IV.3.6.1(ii)): insert before ’and’: $X$ is the nerve of $\int F$ for a functor $F(i) = f^{-1}(i, \bullet)$, $f$ is the nerve of $\int F \rightarrow F$

p.354 l.7: $\prod_{i=1}^{\infty}$ should be $\prod_{n=1}^{\infty}$

p.372 (IV.8.9): Before ’close under’ insert ’saturated in $C$,’

p.417 (V.2.3.1): After ’closed under extensions’ insert and saturated in $C$,’

p.434 l.20 (V.3.11): insert ’pseudocoherent’ before ’complexes of flasque’
p.446 l.15: $i : \to R/sR$ should be $i : R \to R/sR$

p.496 line 5–7: The two ‘∗’ should be ‘◦’ and II.4.3 should be II.4.3.3.

p.497 line 19: ‘∗’ should be ‘◦’

p.506 (Ex. 11.3): ...write $W_{gr}(H)$ for the nonunital ring of Example 4.3.3. Show that... In the display , ∗ should be $*_{gr}$. The hint should read: In the universal case $H = \mathbb{Z}[x, y]$, $W_{gr}(H)$ embeds in $W_{gr}(H \otimes \mathbb{Q})$. Now use the isomorphism $ch$ of Example 4.3.3.

p.536 (VI.5.2): 'infinite field' should be just 'field'

p.540 (VI.5.7): “$H_2(GL_2(F), \mathbb{Z}) = F^\times$, and” should be:

“$H_1(GL_2(F), \mathbb{Z}) = F^\times$, $H_2(GL_2(F), \mathbb{Z}) = \bigwedge^2 F^\times \oplus K_2(F)$, and” (see p.541, line 6)

p.564 line -6: $Z_{r_2+|S|-1}$ should be $Z^{r_1+r_2+|S|-1}$

Thanks go to: T. Geisser, O. Bräunling, C. Zhong, A. Merkurjev, V. Sadhu, M. Ullmann