Corrections to
by C. A. Weibel


p.101 lines -10,-13,-16: the product ‘∗’ should be ‘◦’
p.101 line -8: exp(1 − r_n t^n/n) should be exp(−r_n t^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 + ∑ a_i t^i with a_i ∈ A_i. Then the formula

(1 + a_1 t) *_{gr} (1 + b_1 t) = (1 + (a_1 + b_1) t) / (1 + a_1 t)(1 + b_1 t)

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

If A is a graded \mathbb{Q}-algebra, the formula ch(1 + at) = e^n − 1 defines a ring isomorphism ch : W_{gr}(A) → \prod A_n (exercise!). Now suppose that (1 + a_n t^n) = \prod (1 + α_i t), so that the elementary symmetric polynomials s_k in the α_i vanish for k < n, and s_n = a_n. For k < n this implies that \sum α_i^k = 0, and \sum α_i^n = (−1)^{n−1} n a_n. It follows that the lowest term in ch(1 + a_n t^n) is (−1)^{n−1} n 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 \tilde{K} → 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^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 × W_{gr}(A) of Example 4.3.3, show that K → H × W_{gr}(A), x ↦ (\varepsilon, c(x)), is a homomorphism of \lambda-rings with unit; see [SGA6, 0_{App}, §I.3].

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

p.180 (II.9.4): ‘If \mathcal{B} is cofinal in \mathcal{C}’ should be ‘If \mathcal{B} is saturated in \mathcal{C}, and cofinal in \mathcal{C}’

(saturated in \mathcal{C} means if C_1 → C_2 is a w.e., and one C_i is in \mathcal{B} then both are in \mathcal{B}.)

p.189 (Ex. II.9.14): ‘\mathcal{B} is cofinal in \mathcal{C}’ should be ‘If \mathcal{B} is saturated in \mathcal{C}, and cofinal in \mathcal{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.281 l.-5: K^M_n F(t) and K^M_n F(t)_w should be K^M_{n+1} F(t) and K^M_{n+1} F(t)_v

p.318 (IV.3.6.1(ii)): insert before ’and’: X is the nerve of I ∫ F for a functor F(i) = f^{-1}(i, •), f is the nerve of I ∫ F → F

p.354 l.-7: \prod_{i=1}^{∞} should be \prod_{m=1}^{∞}

p.372 (IV.8.9): Before ’close under’ insert ’saturated in \mathcal{C},’

p.393 (Ex. IV.11.9): the even permutation matrices lie in E(R)

p.417 (V.2.3.1): After ’closed under extensions’ insert and saturated in \mathcal{C}.’
p.434 l.20 (V.3.11): insert ‘pseudocoherent’ before ‘complexes of flasque’

p.446 l.15: \( i : \rightarrow R/sR \) should be \( i : R \rightarrow R/sR \)

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: \( \mathbb{Z}^{r_2+|S|−1} \) should be \( \mathbb{Z}^{r_1+r_2+|S|−1} \)

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