Errata for Jean-Pierre Demailly, *Complex Analytic and Differential Geometry*

Corrected formulas, hypotheses, references, and proof clarifications

Independent and unofficial reader's errata

Revised 26 August 2026

Contents

Scope, edition, and conventions

Edition checked. Jean-Pierre Demailly, *Complex Analytic and Differential Geometry*, OpenContent book, Institut Fourier, Université de Grenoble I; the file checked is the version dated *Thursday June 21, 2012* (455 pages, nine chapters, pp. 7–448, followed by the References, pp. 449–455). This is an independent reader's errata, not an official corrigendum, and it has no connection with the author or with any publisher.

Page references. Every locator uses the page number printed in the book. In the version checked the printed page number and the PDF page number coincide, so no offset is needed. Statement, equation, step, paragraph, or item locators are added wherever the page alone would leave doubt. The book numbers statements and displayed formulas with a single counter per section, so that (4.17) may denote a theorem and (4.11) a display in the same section; references of the form Th. I-4.17 point to another chapter. Exercises occur only in § I-8 (pp. 60–64) and § II-11 (pp. 127–128) and are numbered § 8.1, § 11.1, …

What is included. The first group in each chapter records mathematical errors, missing hypotheses, notation errors that change meaning, wrong or unresolved cross-references, and genuine proof clarifications. The second group records typographical, editorial and bibliographic corrections; these are integrated into the relevant chapter rather than collected in a detached appendix. Full entries use the fields **Type**, **Precise location**, **Printed text**, **Issue**, and **Correction / repair**; short entries retain a page-and-context locator.

What is excluded. Items that are correct as printed, standard implicit arguments, routine ε-management, stylistic preferences, British versus American spelling, the author's own conventions ($d^c = \frac{\mathrm{i}}{2\pi}(d'' - d')$, $\Subset$ for relative compactness, Sh, Psh, "a R-module", hyphenated line breaks), and artefacts of text extraction from the PDF.

Verification standard. Two independent sweeps were run over the whole book, in sixteen overlapping chapter ranges, by readers blind to each other's findings; a script-based pre-scan of every internal cross-reference and of the spelling of the running text was run beforehand and its output folded into the candidate lists. Every candidate was then adjudicated a third time against the rendered page image at the printed location, and rejected unless the printed text really says what the candidate claims and the claim is a genuine defect; where the observation was right but the diagnosis or the repair was wrong, the entry was rewritten. Formula-level claims were recomputed from scratch — typically on a model case ($n = 1$, $p = 0$, $p = n$, $u = \log|z|$, $E = \mathcal{O}(-1) \subset \mathbb{C}^{n+1}$) — before being retained. Cross-reference claims were checked by opening the cited page, not only by consulting an index of labels. Of the candidates produced by the two sweeps, a substantial fraction was discarded at adjudication as artefacts, misreadings, or matters of taste. The list below retains 661 entries, of which 355 are mathematical, notational, cross-reference or proof items and 306 are typographical, editorial or bibliographic; 28 entries record a printed statement or formula that is mathematically wrong. Gaps in item identifiers do not occur: identifiers are assigned consecutively within each chapter. No independent errata can prove exhaustiveness.

Front matter and table of contents

Range checked: printed pp. 1–6.

Corrections

F-M01. Table of Contents p. 3: nine section page numbers are one too small

- **Type:** cross-reference error.
- **Precise location:** printed p. 3, Table of Contents, entries I.5, II.2, II.10, III.2, III.6, III.10, IV.2, IV.3, IV.4.
- **Printed text:** 5. Plurisubharmonic Functions ... 38 / 2. The Local Ring of Germs of Analytic Functions ... 78 / 10. Bimeromorphic maps, Modifications and Blow-ups ... 125 / 2. Closed Positive Currents ... 137 / 6. The Jensen-Lelong Formula ... 161 / 10. A Schwarz Lemma. Application to Number Theory ... 188 / 2. The Simplicial Flabby Resolution of a Sheaf ... 197 / 3. Cohomology Groups with Values in a Sheaf ... 199 / 4. Acyclic Sheaves ... 201.
- **Issue:** Each of these nine entries points to the page preceding the one on which the section heading is actually printed; the page it names still belongs entirely to the previous section. The headings stand at the top of pp. 39 (§ I-5), 79 (§ II-2), 126 (§ II-10), 138 (§ III-2), 162 (§ III-6), 189 (§ III-10), 198 (§ IV-2), 200 (§ IV-3), 202 (§ IV-4). This is the usual TeX artefact of the table-of-contents entry being written out before the page break that carries the heading over; the same mechanism produces wrong running heads elsewhere (e.g. p. 255, whose whole text is § V-2, carries the head "§ 3. Curvature Tensor").
- **Correction / repair:** Replace the page numbers by: I.5 → 39; II.2 → 79; II.10 → 126; III.2 → 138; III.6 → 162; III.10 → 189; IV.2 → 198; IV.3 → 200; IV.4 → 202.

F-M02. Table of Contents p. 4: sixteen section page numbers are one too small

- **Type:** cross-reference error.
- **Precise location:** printed p. 4, Table of Contents, entries IV.5, IV.8, IV.10, IV.14, IV.16, V.2, V.3, V.5, V.6, V.13, V.15, VI.3, VI.5, VI.10, VI.12, VII.4.
- **Printed text:** 5. Čech Cohomology ... 205 / 8. Cup Product ... 218 / 10. Spectral Sequence of a Filtered Complex ... 223 / 14. Alexander-Spanier Cohomology ... 235 / 16. Poincaré duality ... 245 / 2. Linear Connections ... 254 / 3. Curvature Tensor ... 255 / 5. Pull-Back of a Vector Bundle ... 258 / 6. Parallel Translation and Flat Vector Bundles ... 259 / 13. Lelong-Poincaré Equation and First Chern Class ... 270 / 15. Line Bundles $\mathcal{O}(k)$ over $\mathbb{P}^n$ ... 276 / 3. Harmonic Forms and Hodge Theory on Riemannian Manifolds ... 290 / 5. Basic Results of Kähler Geometry ... 299 / 10. Complex Curves ... 316 / 12. Effect of a Modification on Hodge Decomposition ... 323 / 4. Girbau's Vanishing Theorem ... 334.
- **Issue:** Same off-by-one defect as on p. 3. The headings are printed at the top of pp. 206 (§ IV-5), 219 (§ IV-8), 224 (§ IV-10), 236 (§ IV-14), 246 (§ IV-16), 255 (§ V-2), 256 (§ V-3), 259 (§ V-5), 260 (§ V-6), 271 (§ V-13), 277 (§ V-15), 291 (§ VI-3), 300 (§ VI-5), 317 (§ VI-10), 324 (§ VI-12), 335 (§ VII-4).
- **Correction / repair:** Replace the page numbers by: IV.5 → 206; IV.8 → 219; IV.10 → 224; IV.14 → 236; IV.16 → 246; V.2 → 255; V.3 → 256; V.5 → 259; V.6 → 260; V.13 → 271; V.15 → 277; VI.3 → 291; VI.5 → 300; VI.10 → 317; VI.12 → 324; VII.4 → 335.

F-M03. Table of Contents p. 5: four section page numbers are one too small

- **Type:** cross-reference error.
- **Precise location:** printed p. 5, Table of Contents, entries VII.12, VIII.6, VIII.7, VIII.11.
- **Printed text:** 12. Blowing-up along a Submanifold ... 353 / 6. Hörmander's Estimates for non Complete Kähler Metrics ... 375 / 7. Extension of Holomorphic Functions from Subvarieties ... 379 / 11. Integrability of Almost Complex Structures ... 396.
- **Issue:** Same off-by-one defect as on pp. 3 and 4: § VII-12 begins on p. 354, § VIII-6 on p. 376, § VIII-7 on p. 380 and § VIII-11 on p. 397; pp. 353, 375, 379 and 396 still belong to the preceding section. All the remaining page numbers and all the titles on p. 5 agree with the headings.
- **Correction / repair:** Replace the page numbers by: VII.12 → 354; VIII.6 → 376; VIII.7 → 380; VIII.11 → 397.

Typographical and editorial corrections

- **F-T01.** printed p. 4, Table of Contents, Chapter VI entry 2; and p. 289, heading and running head of § VI-2. *Printed:* 2. Formalism of PseudoDifferential Operators. *Issue:* The word is set with an internal capital, "PseudoDifferential"; the standard spellings are "pseudodifferential" or "pseudo-differential". The same form occurs three times (table of contents p. 4, running head and section heading on p. 289). *Correction:* Replace "PseudoDifferential" by "Pseudodifferential" (or "Pseudo-Differential") in the table of contents and in the heading and running head of § VI-2.
- **F-T02.** printed p. 5, Table of Contents, last line. *Printed:* References. . . . . 449. *Issue:* A bold full stop is printed immediately after the word "References", before the gap and the dot leaders; it is a leftover of the "Chapter N." numbering slot used for the chapter entries. No other entry of the table of contents ends with a period. *Correction:* Delete the period after "References".

Chapter I. Complex Differential Calculus and Pseudoconvexity

Range checked: printed pp. 7–64.

Mathematical corrections, cross-references and proof clarifications

CI-M01. §1.B.4: $\pi_0(X)$ should be $\pi_0(M)$

- **Type:** notation error.
- **Precise location:** printed p. 10, §1.B.4, the display for $H^0_{\mathrm{DR}}(M,\mathbb{R})$ and the line following it.
- **Printed text:** $H^0_{\mathrm{DR}}(M,\mathbb{R}) = \mathbb{R}^{\pi_0(X)}$, where $\pi_0(X)$ denotes the set of connected components of M.
- **Issue:** The manifold is denoted M throughout §1.B.4; the symbol X is never introduced.
- **Correction / repair:** Replace $\mathbb{R}^{\pi_0(X)}$ by $\mathbb{R}^{\pi_0(M)}$ and $\pi_0(X)$ by $\pi_0(M)$.

CI-M02. (1.13): the coefficients of v are called v_J but written v_I

- **Type:** notation error.
- **Precise location:** printed p. 10, §1.B.5, formula (1.13).
- **Printed text:** $F^\star v(x) = \sum v_I\big(F(x)\big)\, dF_{i_1} \wedge \ldots \wedge dF_{i_p}$.
- **Issue:** Two lines above, the p-form on M' is written $v(y) = \sum v_J(y)\, dy_J$, so its coefficients carry the multi-index $J = (j_1, \ldots, j_p)$; formula (1.13) uses v_I with entries $i_1, \ldots, i_p$ instead.
- **Correction / repair:** Write $F^\star v(x) = \sum_{|J|=p} v_J\big(F(x)\big)\, dF_{j_1} \wedge \ldots \wedge dF_{j_p}$ (or rename the multi-index of v as I in the preceding sentence).

CI-M03. Proof of (1.18): the right-hand integrals should be over $K \cap V$, not over V

- **Type:** mathematical error.
- **Precise location:** printed p. 12, proof of Stokes' formula (1.18), the two displayed identities.
- **Printed text:** $\int_{\partial_j K\cap V} u_j\, dx_1\wedge\ldots\widehat{dx_j}\ldots dx_m = \int_V \frac{\partial u_j}{\partial x_j}\, dx_1\wedge\ldots dx_m$, $\qquad \int_{\partial K\cap V} u = \sum_{1\leqslant j\leqslant m}(-1)^{j-1}\int_{\partial_j K\cap V} u_j\, dx_1\wedge \ldots\widehat{dx_j}\ldots\wedge dx_m = \int_V du$.
- **Issue:** As printed both identities are false: u has compact support in V, so $\int_V \partial u_j/\partial x_j\, d\lambda = 0$ and $\int_V du = 0$, while the left-hand sides are boundary terms that do not vanish. The partial integration with respect to x_j is performed over $K \cap V = \{x \in V;\ x_1 \leqslant 0, \ldots, x_l \leqslant 0\}$, i.e. over $x_j \in]-\infty, 0]$, and this is exactly what produces the boundary term on $\partial_j K \cap V$.
- **Correction / repair:** Replace $\int_V$ by $\int_{K\cap V}$ in both displays (two occurrences).

CI-M04. §2.A: "$\mathcal{D}^p(M)$ is not a Fréchet space" requires M non-compact

- **Type:** missing hypothesis.
- **Precise location:** printed p. 14, the paragraph following Definition (2.2).
- **Printed text:** It should be observed however that $\mathcal{D}^p(M)$ is not a Fréchet space; in fact $\mathcal{D}^p(M)$ is dense in $\mathcal{E}^p(M)$ and thus non complete for the induced topology.
- **Issue:** Both assertions fail when M is compact: then $\mathcal{D}^p(M) = \mathcal{E}^p(M)$, which is a Fréchet space and is complete. The argument used (a proper dense subspace of a Fréchet space is not complete) presupposes $\mathcal{D}^p(M) \neq \mathcal{E}^p(M)$, i.e. M non-compact.
- **Correction / repair:** Add the hypothesis: "if M is non-compact, $\mathcal{D}^p(M)$ is not a Fréchet space; in fact it is then a proper dense subspace of $\mathcal{E}^p(M)$, hence non complete for the induced topology".

CI-M05. Theorem (2.14) b): missing sign $(-1)^{m_1-m_2}$ in $d(F_\star T) = F_\star(dT)$

- **Type:** mathematical error.
- **Precise location:** printed p. 17, Theorem (2.14), item b).
- **Printed text:** b) $d(F_\star T) = F_\star(dT)$;
- **Issue:** With the convention (2.6), $\langle dT, u\rangle = (-1)^{q+1}\langle T, du\rangle$ where $q = \deg T$, and the definition (2.13), $\langle F_\star T, u\rangle = \langle T, F^\star u\rangle$, one gets for $T \in {}^s\mathcal{D}'_p(M_1)$ (so that $\deg T = m_1 - p$ and $\deg F_\star T = m_2 - p$): $\langle d(F_\star T), u\rangle = (-1)^{m_2-p+1}\langle T, F^\star(du)\rangle = (-1)^{m_2-p+1}\langle T, d(F^\star u)\rangle$, whereas $\langle F_\star(dT), u\rangle = (-1)^{m_1-p+1}\langle T, d(F^\star u)\rangle$. Hence $d(F_\star T) = (-1)^{m_1-m_2}F_\star(dT)$, and b) is false whenever $m_1 - m_2$ is odd. Counterexample: $M_1 = \mathbb{R}$, $M_2 = \mathbb{R}^2$, $F(x) = (x, 0)$, $T = T_f$ with $f \in \mathcal{D}(\mathbb{R})$, a current of dimension 1; for $\varphi \in \mathcal{D}^0(\mathbb{R}^2)$ one finds $\langle d(F_\star T), \varphi\rangle = \langle F_\star T, d\varphi\rangle = \int f(x)\frac{\partial\varphi}{\partial x_1}(x, 0)\,dx = -\int f'(x)\varphi(x, 0)\,dx$, while $\langle F_\star(dT), \varphi\rangle = \langle dT, F^\star\varphi\rangle = \int f'(x)\varphi(x, 0)\,dx$. The reason is that (2.6) defines the degree-based operator $d = (-1)^{m-p+1}\partial$ on $\mathcal{D}'_p(M)$, $m = \dim M$, whereas it is the dimension-based boundary ∂, $\langle \partial T, u\rangle = \langle T, du\rangle$, that commutes with $F_\star$. Items a), c), d) are correct as printed; for forms the same phenomenon reads $F_\star(dg) = (-1)^{m_1-m_2}d(F_\star g)$ for the fiber integration (2.16).
- **Correction / repair:** Replace b) by $d(F_\star T) = (-1)^{m_1-m_2}F_\star(dT)$ (no sign when $m_1 - m_2$ is even, in particular for maps between complex manifolds, so that none of the applications made in the book is affected). The dual statement (2.18) and the homotopy formula (2.22) need the corresponding factors; see the two following entries. Alternatively, state b) for the boundary operator b defined by $\langle bT, u\rangle = \langle T, du\rangle$, which commutes with $F_\star$ without any sign.

CI-M06. (2.18): both formulas need a sign when $m_1 - m_2$ is odd

- **Type:** mathematical error.
- **Precise location:** printed p. 18, formula (2.18).
- **Printed text:** $d(F^\star T) = F^\star(dT), \qquad F^\star(T \wedge g) = F^\star T \wedge F^\star g, \qquad \forall g \in {}^s\mathcal{D}^\bullet(M_2).$
- **Issue:** Put $r = m_1 - m_2$. With the conventions of the book – $\langle T, u\rangle = \int_M T \wedge u$, $\langle dT, u\rangle = (-1)^{q+1}\langle T, du\rangle$ where $q = \deg T$ (2.6), (2.13), (2.16), and the fiber orientation fixed on p. 17 by $\mathrm{or}(M_1) = \mathrm{or}(A) \times \mathrm{or}(M_2)$ with the fiber coordinates written first – integration along the fibers satisfies $F_\star(du) = (-1)^r d(F_\star u)$ and $F_\star(F^\star g \wedge u) = (-1)^{r\deg g} g \wedge F_\star u$. Consequences: (i) since $F_\star$ preserves the dimension but changes the degree by $-r$, while the sign in (2.6) depends on the degree, $\langle d(F_\star T), u\rangle = (-1)^{m_2-p+1}\langle T, d(F^\star u)\rangle$ whereas $\langle F_\star(dT), u\rangle = (-1)^{m_1-p+1}\langle T, d(F^\star u)\rangle$, i.e. $d(F_\star T) = (-1)^{m_1-m_2}F_\star(dT)$: Theorem (2.14 b) itself is off by this sign. (ii) Dually $d(F^\star T) = (-1)^{m_1-m_2}F^\star(dT)$, and (iii) $F^\star(T \wedge g) = (-1)^{(m_1-m_2)\deg g}F^\star T \wedge F^\star g$. Check with $r = 1$: $M_1 = \mathbb{R}^2_{x,y}$, $M_2 = \mathbb{R}_y$, $F = \mathrm{pr}_2$. For $u = a\,dx + b\,dy$ one has $F_\star u = \int a\,dx$, hence $\langle F^\star T_{dy}, u\rangle = \int a\,dx\,dy = -\langle T_{dy}, u\rangle$, i.e. $F^\star T_{dy} = -T_{dy}$; thus $d(F^\star T_y) = T_{dy}$ while $F^\star(dT_y) = -T_{dy}$, and $F^\star(T_1 \wedge dy) = -T_{dy} = -F^\star T_1 \wedge F^\star dy$. Likewise for the direct image, with $g = \phi(x, y)\,dx$ compactly supported and $\Phi(y) = \int \phi\,dx$: $F_\star T_g = T_\Phi$, $F_\star(dT_g) = T_{-\Phi' dy} = -d(F_\star T_g)$. Note that (2.14 c), $F_\star(T \wedge F^\star g) = (F_\star T) \wedge g$, is correct as printed.
- **Correction / repair:** Replace (2.14 b) by $d(F_\star T) = (-1)^{m_1-m_2}F_\star(dT)$, and (2.18) by $d(F^\star T) = (-1)^{m_1-m_2}F^\star(dT)$, $F^\star(T \wedge g) = (-1)^{(m_1-m_2)\deg g}F^\star T \wedge F^\star g$. (Alternatively, state (2.14 b) and (2.18) for the boundary operator b defined by $\langle bT, u\rangle = \langle T, du\rangle$, which commutes with $F_\star$ and $F^\star$ without any sign.) All these signs equal $+1$ in the applications made in the book, where $m_1 - m_2$ is even (e.g. the map $\pi : \mathbb{C}^n \times \mathbb{C}^n \to \mathbb{C}^n$ of (3.25), $m_1 - m_2 = 2n$).

CI-M07. §2.C.2: wrong degree of the test forms in the definition of $F^\star T$

- **Type:** mathematical error.
- **Precise location:** printed p. 18, §2.C.2, the display defining the inverse image of a current.
- **Printed text:** $\langle F^\star T, u\rangle = \langle T, F_\star u\rangle, \qquad u \in {}^s\mathcal{D}^{q+m_1-m_2}(M_1).$

- **Issue:** $T \in {}^s\mathcal{D}'^{\,q}(M_2)$ pairs with test forms of degree $m_2 - q$, and $F_\star$ lowers the degree of a form by $m_1 - m_2$; hence $\deg u - (m_1 - m_2) = m_2 - q$, i.e. $\deg u = m_1 - q$. This is also what the next sentence requires, since $\dim F^\star T = \dim T + m_1 - m_2 = m_1 - q$ and a current pairs with test forms of degree equal to its dimension. The printed exponent $q + m_1 - m_2$ equals $m_1 - q$ only when $2q = m_2$; it comes from writing q in place of $p = \dim T = m_2 - q$.

- **Correction / repair:** Replace $u \in {}^s\mathcal{D}^{\,q+m_1-m_2}(M_1)$ by $u \in {}^s\mathcal{D}^{\,m_1-q}(M_1)$ (equivalently ${}^s\mathcal{D}^{\,p+m_1-m_2}(M_1)$ with $p = \dim T$).

CI-M08. §2.C.2: $F^\star$ on currents does not extend $F^\star$ on forms

- **Type:** notation error.

- **Precise location:** printed p. 18, §2.C.2, the definition of the inverse image $F^\star T$ of a current.

- **Printed text:** one can always define the inverse image $F^\star T \in {}^s\mathcal{D}'^{\,q}(M_1)$ of a current $T \in {}^s\mathcal{D}'^{\,q}(M_2)$ by $\langle F^\star T, u\rangle = \langle T, F_\star u\rangle$.

- **Issue:** With the pairing $\langle T, u\rangle = \int T \wedge u$ of §2.A and the fiber integration (2.16) (fiber coordinates written first) one has $F_\star(F^\star t \wedge u) = (-1)^{(m_1-m_2)\deg t}\, t \wedge F_\star u$, hence, for a form t on M_2 with L^1_{loc} coefficients, $F^\star T_t = (-1)^{(m_1-m_2)\deg t}\, T_{F^\star t}$. Thus the symbol $F^\star$ denotes two operations differing by a sign as soon as $(m_1 - m_2)\deg t$ is odd. Example: $F = \mathrm{pr}_2 : \mathbb{R}^2_{x,y} \to \mathbb{R}_y$, $t = dy$, $u = a\,dx + b\,dy$; then $\langle F^\star T_{dy}, u\rangle = \langle T_{dy}, \int a\,dx\rangle = \iint a\,dx\,dy$, whereas $\langle T_{F^\star dy}, u\rangle = \int dy \wedge a\,dx = -\iint a\,dx\,dy$.

- **Correction / repair:** Add the remark that, with these conventions, $F^\star T_t = (-1)^{(m_1-m_2)\deg t} T_{F^\star t}$; no sign occurs in the uses made in the book, (2.19) and (3.25), where $m_1 - m_2$ is even. (Inserting the factor $(-1)^{(m_1-m_2)\deg T}$ into the definition itself would restore compatibility with forms, but then (2.19) and the second formula of (2.18) would have to be modified accordingly.)

CI-M09. (2.22): wrong sign in the homotopy formula for currents

- **Type:** mathematical error.

- **Precise location:** printed p. 19, §2.D.2, the display preceding (2.22) and formula (2.22).

- **Printed text:** $d\big(H_\star([0,1] \otimes T)\big) = H_\star(\delta_0 \otimes T - \delta_1 \otimes T + [0,1] \otimes dT) = F_\star T - G_\star T + H_\star([0,1] \otimes dT)$, (2.22) $\quad F_\star T - G_\star T = d\big(H_\star([0,1] \otimes T)\big) - H_\star([0,1] \otimes dT)$.

- **Issue:** The first equality applies Theorem (2.14 b) to $H : [0,1] \times M_1 \to M_2$, whose source has dimension $m_1 + 1$; by the corrected form of (2.14 b), $d(H_\star S) = (-1)^{m_1+1-m_2} H_\star(dS)$, so the factor $(-1)^{m_1-m_2+1}$ is missing (it equals -1 whenever $m_1 = m_2$). The remaining steps are correct: $d([0,1] \otimes T) = (\delta_0 - \delta_1) \otimes T + [0,1] \otimes dT$, and $H_\star(\delta_0 \otimes T) = F_\star T$, $H_\star(\delta_1 \otimes T) = G_\star T$. Counterexample: $M_1 = M_2 = \mathbb{R}$, $H(t,x) = x + t$, $T = \delta_0$, so $F = \mathrm{Id}$, $G(x) = x + 1$, $dT = 0$ and $F_\star T - G_\star T = \delta_0 - \delta_1$; by (2.21), $\langle [0,1] \otimes \delta_0, a(t)b(x)\,dt\rangle = -b(0)\int_0^1 a\,dt$, so $H_\star([0,1] \otimes \delta_0) = -[0,1]$ and $d\big(H_\star([0,1] \otimes T)\big) = \delta_1 - \delta_0$, the opposite of what (2.22) asserts. The book's own application on p. 20 uses the corrected sign: with $H_v(t,x) = F_{tv}(x)$, i.e. $F = \mathrm{Id}$, $G = F_v$ and $m_1 = m_2$, it states $(F_v)_\star T - T = d\big((H_v)_\star([0,1] \otimes T)\big)$, which is the opposite of what (2.22) as printed yields. The conclusion that $F_\star T$ and $G_\star T$ are cohomologous when $dT = 0$, and Theorem (2.24), are unaffected.

- **Correction / repair:** Replace (2.22) by $F_\star T - G_\star T = (-1)^{m_1-m_2+1}\, d\big(H_\star([0,1] \otimes T)\big) - H_\star([0,1] \otimes dT)$, and insert the factor $(-1)^{m_1-m_2+1}$ in the preceding display. For $m_1 = m_2$ this reads $G_\star T - F_\star T = d\big(H_\star([0,1] \otimes T)\big) + H_\star([0,1] \otimes dT)$, which is the form used on p. 20.

CI-M10. §2.D.4: undefined degree p for the test forms

- **Type:** notation error.

- **Precise location:** printed p. 20, §2.D.4, the line following the definitions of Θ and S.

- **Printed text:** Then S is a current of the same order s as T and Θ is smooth. Indeed, for $u \in \mathcal{D}^p(\Omega)$ we have $\langle \Theta, u\rangle = \langle T, u_\varepsilon\rangle$.

- **Issue:** In §2.D.4 the current is $T \in {}^s\mathcal{D}'^{\,q}(\Omega)$ on an open set $\Omega \subset \mathbb{R}^m$, so its test forms have degree $m-q$; the letter p is not defined anywhere in this subsection.

- **Correction / repair:** Replace $u \in \mathcal{D}^p(\Omega)$ by $u \in \mathcal{D}^{m-q}(\Omega)$.

CI-M11. (3.23): wrong sign in the Bochner–Martinelli kernel ($d''k_{\mathrm{BM}} = -\delta_0$)

- **Type:** mathematical error.

- **Precise location:** printed p. 26, formula (3.23) and the proof of Lemma (3.24); same sign in the kernel $K(z,w,\zeta)$ of p. 28.

- **Printed text:** $k_{\mathrm{BM}}(z) = c_n \sum_{1\leqslant j\leqslant n}(-1)^j \frac{\overline{z}_j\, dz_1\wedge\ldots dz_n\wedge d\overline{z}_1\wedge\ldots\widehat{d\overline{z}_j}\ldots\wedge d\overline{z}_n}{|z|^{2n}}$, $\qquad c_n = (-1)^{n(n-1)/2}\frac{(n-1)!}{(2\pi\mathrm{i})^n}$.

- **Issue:** As printed the kernel satisfies $d''k_{\mathrm{BM}} = -\delta_0$, so Lemma (3.24) is false for it. (i) Case $n=1$: $k_{\mathrm{BM}} = c_1(-1)^1\overline{z}\,dz/|z|^2 = -\frac{1}{2\pi\mathrm{i}}\frac{dz}{z}$, and since $\frac{\partial}{\partial\overline{z}}\big(\frac{1}{z}\big) = \pi\delta_0$ and $d\overline{z}\wedge dz = 2\mathrm{i}\,d\lambda$, one gets $d''k_{\mathrm{BM}} = -\frac{1}{2\pi\mathrm{i}}\,\pi\,\delta_0\,d\overline{z}\wedge dz = -\delta_0\,d\lambda$. (ii) General n: by Stokes, $d''k_{\mathrm{BM}} = \delta_0$ is equivalent to $\int_{S(0,1)} k_{\mathrm{BM}} = 1$. The smooth form $\widetilde{k} = c_n\sum_j(-1)^j\overline{z}_j\,dz_1\wedge\ldots\wedge dz_n\wedge d\overline{z}_1\wedge\ldots\widehat{d\overline{z}_j}\ldots\wedge d\overline{z}_n$ coincides with k_{BM} on $S(0,1)$ and satisfies $d\widetilde{k} = -\frac{n!}{\pi^n}\,d\lambda$, whence $\int_{S(0,1)} k_{\mathrm{BM}} = -\frac{n!}{\pi^n}\alpha_{2n} = -1$ (using $\alpha_{2n} = \pi^n/n!$). (iii) The printed proof of (3.24) contains a compensating sign error: its first line, $d''k_{\mathrm{BM}} = -\frac{(n-1)!}{\pi^n}\sum_j \frac{\partial}{\partial\overline{z}_j}\big(\frac{\overline{z}_j}{|z|^{2n}}\big)d\lambda$, is correct for the printed kernel, but the passage to the second line is not, since $\frac{\partial}{\partial z_j}|z|^{2-2n} = (1-n)\overline{z}_j|z|^{-2n}$ gives $\sum_j\frac{\partial}{\partial\overline{z}_j}\big(\frac{\overline{z}_j}{|z|^{2n}}\big) = -\frac{1}{n-1}\sum_j\frac{\partial^2}{\partial z_j\partial\overline{z}_j}\frac{1}{|z|^{2n-2}}$; the first line therefore equals $+\frac{1}{n(n-1)\alpha_{2n}}\sum_j\frac{\partial^2}{\partial z_j\partial\overline{z}_j}\frac{1}{|z|^{2n-2}}\,d\lambda = -\Delta N\,d\lambda = -\delta_0$, because $N = -\frac{1}{4n(n-1)\alpha_{2n}}|z|^{2-2n}$ and $\Delta = 4\sum_j\partial^2/\partial z_j\partial\overline{z}_j$. The two errors cancel, so the printed proof reaches δ_0 although the printed kernel gives $-\delta_0$.

- **Correction / repair:** In (3.23) replace $(-1)^j$ by $(-1)^{j-1}$ (equivalently, replace c_n by $-c_n$), and make the same replacement in the kernel $K(z,w,\zeta)$ of p. 28, $K(z,w,\zeta) = c_n\sum_{j=1}^n\frac{(-1)^{j-1}(w_j-\overline{\zeta}_j)}{((z-\zeta)\cdot(w-\overline{\zeta}))^n}\bigwedge_k(dz_k - d\zeta_k)\wedge\bigwedge_{k\neq j}(dw_k - d\overline{\zeta}_k)$, whose restriction to $w=\overline{z}$ is k_{BM}. In the proof of (3.24), the first line then reads $d''k_{\mathrm{BM}} = +\frac{(n-1)!}{\pi^n}\sum_j\frac{\partial}{\partial\overline{z}_j}\big(\frac{\overline{z}_j}{|z|^{2n}}\big)d\lambda(z)$, and the following two lines are correct as printed. With the corrected kernel, (3.24), (3.25), the Koppelman formula (3.26), Corollary (3.27) and the proof of (3.29) are correct as printed.

CI-M12. Proof of (3.26): $\partial\Omega\times\Omega$ should be $\Omega\times\partial\Omega$

- **Type:** mathematical error.

- **Precise location:** printed p. 27, proof of the Koppelman formula (3.26), the first two sentences and the left-hand side of the Stokes display.

- **Printed text:** we consider the integral $\int_{\partial\Omega\times\Omega} K_{\mathrm{BM}}(z,\zeta)\wedge v(\zeta)\wedge w(z)$. It is well defined since K_{BM} has no singularities on $\partial\Omega\times\operatorname{Supp} v \Subset \partial\Omega\times\Omega$. Since $w(z)$ vanishes on $\partial\Omega$ the integral can be extended as well to $\partial(\Omega\times\Omega)$.

- **Issue:** In the product $\mathbb{C}^n_z\times\mathbb{C}^n_\zeta$ used for $K_{\mathrm{BM}}(z,\zeta)$ (cf. (3.25)), $\partial\Omega\times\Omega$ means $z\in\partial\Omega$, $\zeta\in\Omega$; the integral over that set vanishes identically, since w has compact support in Ω. The set actually used is $\Omega\times\partial\Omega = \{(z,\zeta);\ z\in\Omega,\ \zeta\in\partial\Omega\}$: it is precisely because $w(z)$ vanishes near $\partial\Omega$ that the other piece $\partial\Omega\times\Omega$ of $\partial(\Omega\times\Omega)$ contributes nothing, and it is $\int_{\partial\Omega}$ in the variable ζ that appears in the last display of the proof and in (3.26). Moreover the compactness statement as printed is false: v is only defined on $\overline{\Omega}$, so $\operatorname{Supp} v$ need not be compact in Ω; what is compact is $\operatorname{Supp} w\times\partial\Omega$, which is disjoint from the diagonal, i.e. from the singular set of K_{BM}.

- **Correction / repair:** Replace $\partial\Omega\times\Omega$ by $\Omega\times\partial\Omega$ under the two integral signs (the first display and the left-hand side of the Stokes display), and replace "K_{BM} has no singularities on $\partial\Omega\times\operatorname{Supp} v\Subset\partial\Omega\times\Omega$" by "$K_{\mathrm{BM}}$ has no singularities on $\operatorname{Supp} w\times\partial\Omega\Subset\Omega\times\partial\Omega$".

CI-M13. Proof of (3.30): the neighborhood $\widetilde{\Omega}$ is never defined

- **Type:** notation error.
- **Precise location:** printed p. 29, proof of Corollary (3.30).
- **Printed text:** hence there exists $u \in \mathcal{E}^{p,0}(\widetilde{\Omega}, \mathbb{C})$ such that $d''u = d''f$. Then $f - u$ is holomorphic and $f = (f-u) + u \in \mathcal{E}^{p,0}(\widetilde{\Omega}, \mathbb{C})$.
- **Issue:** The symbol $\widetilde{\Omega}$ is introduced nowhere; it stands for the smaller neighborhood of 0, denoted $\omega \subset \Omega$ in (3.29 b), on which the solution of $d''u = d''f$ is obtained.
- **Correction / repair:** Replace $\widetilde{\Omega}$ by the neighborhood $\omega \subset \Omega$ of 0 provided by (3.29 b), or state explicitly that $\widetilde{\Omega}$ denotes that neighborhood.

CI-M14. Proof of (4.3): "(4.1)" should be "(4.2)"

- **Type:** cross-reference error.
- **Precise location:** printed p. 30, proof of Theorem (4.3), the sentence establishing property d).
- **Printed text:** For property d), observe that $r^2 y/|y|^2 \notin \overline{B}(0,r)$ whenever $y \in B(0,r) \smallsetminus \{0\}$. The second Newton kernel in the right hand side of (4.1) is thus harmonic in x on $B(0,r)$.
- **Issue:** (4.1) is the Definition of the Green kernel by the four properties a)–d) and contains no Newton kernel. The formula containing two Newton kernels is (4.2), $G_r(x,y) = N(x-y) - N\big(\frac{|y|}{r}\big(x - \frac{r^2}{|y|^2}y\big)\big)$.
- **Correction / repair:** Replace "(4.1)" by "(4.2)".

CI-M15. Proof of (4.12): "by (4.10)" should be "by (4.9)"

- **Type:** cross-reference error.
- **Precise location:** printed p. 33, proof of (4.12), the sentence following the chain of implications.
- **Printed text:** the second and last ones by (4.10) and the fact that $\mu_B(u\,;a,r_\nu) \leqslant \mu_S(u\,;a,t)$ for at least one $t \in]0, r_\nu[$.
- **Issue:** The second implication is b) $\Rightarrow$ c), i.e. $u(a) \leqslant \mu_S(u\,;a,r)$ for all r implies $u(a) \leqslant \mu_B(u\,;a,r)$; this follows from (4.9), $\mu_B(u\,;a,r) = m\int_0^1 t^{m-1}\mu_S(u\,;a,rt)\,dt$. Formula (4.10) is the Gauss formula $\mu_S(u\,;a,r) = u(a) + \frac{1}{m}\int_0^r \mu_B(\Delta u\,;a,t)\,t\,dt$, which involves Δu and is established only for $u \in C^2$, so it cannot be invoked for a merely upper semicontinuous u.
- **Correction / repair:** Replace "(4.10)" by "(4.9)".

CI-M16. Proof of (4.18): circular citation of (4.19); the inequality comes from (4.11)

- **Type:** cross-reference error.
- **Precise location:** printed p. 35, proof of Theorem (4.18), general case, the sentence beginning "We have $u \star \rho_\varepsilon \geqslant u$".
- **Printed text:** We have $u \star \rho_\varepsilon \geqslant u$ by (4.19) and $\limsup_{\varepsilon\to 0} u \star \rho_\varepsilon \leqslant u$ by the upper semicontinuity.
- **Issue:** (4.19) is the Corollary asserting that Δu is a positive measure; it is stated after (4.18) and deduced from it, so the reference is circular, and in any case it does not yield $u \star \rho_\varepsilon \geqslant u$. The inequality follows from (4.11): $u \star \rho_\varepsilon(a) = \sigma_{m-1}\int_0^1 \mu_S(u\,;a,\varepsilon t)\,\widetilde{\rho}(t)\,t^{m-1}dt \geqslant u(a)\,\sigma_{m-1}\int_0^1 \widetilde{\rho}(t)\,t^{m-1}dt = u(a)$, using the mean value inequality 4.12 b) and $\int_{\mathbb{R}^m} \rho\,d\lambda = 1$.
- **Correction / repair:** Replace "by (4.19)" by "by (4.11) and the mean value inequality 4.12 b)".

CI-M17. Theorem 5.6: χ must be extended by continuity to $[-\infty,+\infty[^p$

- **Type:** missing hypothesis.
- **Precise location:** printed p. 39, Theorem 5.6, statement.
- **Printed text:** Let $u_1,\ldots,u_p \in \mathrm{Psh}(\Omega)$ and $\chi : \mathbb{R}^p \longrightarrow \mathbb{R}$ be a convex function such that $\chi(t_1,\ldots,t_p)$ is non decreasing in each t_j. Then $\chi(u_1,\ldots,u_p)$ is plurisubharmonic on Ω.
- **Issue:** Plurisubharmonic functions take values in $[-\infty,+\infty[$, so $\chi(u_1,\ldots,u_p)$ is not defined when χ is given only on $\mathbb{R}^p$. The subharmonic analogue Th. 4.16 (p. 34) does state the required clause: *If χ is extended by continuity into a function $[-\infty,+\infty[^p \longrightarrow [-\infty,+\infty[$, then ....* The clause is needed already for the examples listed in 5.6 itself ($\max\{u_1,\ldots,u_p\}$, $\log(e^{u_1}+\cdots+e^{u_p})$) and in Example 5.12 (p. 41), which applies Th. 5.6 to $u_j = \alpha_j \log|f_j|$, functions equal to $-\infty$ on $f_j^{-1}(0)$.
- **Correction / repair:** Insert in 5.6, as in 4.16: “If χ is extended by continuity into a function $[-\infty,+\infty[^p \longrightarrow [-\infty,+\infty[$, then $\chi(u_1,\ldots,u_p)$ is plurisubharmonic on Ω.”

CI-M18. Corollary 5.14, proof: the range of $\mathrm{Re}\, z_j$ is $]-\infty,\log R_j[$

- **Type:** mathematical error.
- **Precise location:** printed p. 41, proof of Corollary 5.14, line following the definitions of $\widetilde{\mu}$ and $\widetilde{m}$.
- **Printed text:** are upper semicontinuous, satisfy the mean value inequality, and depend only on $\mathrm{Re}\, z_j \in\,]0,\log R_j[$.
- **Issue:** In $\widetilde{\mu}(z)$ and $\widetilde{m}(z)$ the radii are $r_j = |e^{z_j}| = e^{\mathrm{Re}\, z_j}$ with $0 < r_j < R_j$, so $\mathrm{Re}\, z_j = \log r_j$ runs over $]-\infty,\log R_j[$. With the printed range $\widetilde{\mu}$ and $\widetilde{m}$ would be undefined for $r_j < 1$ (and their domain would be empty when $R_j \leqslant 1$), and the concluding identities $\mu(u;r_1,\ldots,r_n) = \widetilde{\mu}(\log r_1,\ldots,\log r_n)$, $m(u;r_1,\ldots,r_n) = \widetilde{m}(\log r_1,\ldots,\log r_n)$ would be meaningless.
- **Correction / repair:** Replace $]0,\log R_j[$ by $]-\infty,\log R_j[$.

CI-M19. Lemma 5.18: the smoothing kernel of M_η is not normalized

- **Type:** mathematical error.
- **Precise location:** printed p. 43, Lemma 5.18, displayed definition of the regularized maximum M_η.
- **Printed text:** $M_\eta(t_1,\ldots,t_p) = \int_{\mathbb{R}^n} \max\{t_1+h_1,\ldots,t_p+h_p\} \prod_{1\leqslant j\leqslant n} \theta(h_j/\eta_j)\, dh_1\ldots dh_p$.
- **Issue:** θ is normalized by $\int_{\mathbb{R}} \theta(h)\, dh = 1$, hence $\int_{\mathbb{R}} \theta(h/\eta_j)\, dh = \eta_j$ and the printed kernel has total mass $\eta_1\cdots\eta_p \neq 1$. Substituting $h_j = \eta_j u_j$ gives $M_\eta(t) = \eta_1\cdots\eta_p \int_{\mathbb{R}^p} \max\{t_j+\eta_j u_j\} \prod \theta(u_j)\, du$; for $p=1$ this is $M_\eta(t) = \eta\, t$ (using $\int h\theta(h)\, dh = 0$). This contradicts properties b) $\max\{t_j\} \leqslant M_\eta(t) \leqslant \max\{t_j+\eta_j\}$ and d) $M_\eta(t_1+a,\ldots,t_p+a) = M_\eta(t)+a$, and M_η is then not a regularized maximum at all.
- **Correction / repair:** Replace $\prod_j \theta(h_j/\eta_j)$ by $\prod_j \eta_j^{-1}\theta(h_j/\eta_j)$, i.e. put the factor $1/(\eta_1\cdots\eta_p)$ in front of the integral.

CI-M20. Lemma 5.18: $\mathbb{R}^n$ should be $\mathbb{R}^p$ in the definition of M_η and in a)

- **Type:** notation error.
- **Precise location:** printed p. 43, Lemma 5.18, displayed definition of M_η and property a).
- **Printed text:** $M_\eta(t_1,\ldots,t_p) = \int_{\mathbb{R}^n} \max\{t_1+h_1,\ldots,t_p+h_p\} \prod_{1\leqslant j\leqslant n} \theta(h_j/\eta_j)\, dh_1\ldots dh_p$ ... a) $M_\eta(t_1,\ldots,t_p)$ is non decreasing in all variables, smooth and convex on $\mathbb{R}^n$;
- **Issue:** M_η is a function of the p variables $t_1,\ldots,t_p$ and the integration runs over the p variables $h_1,\ldots,h_p$ (as the measure $dh_1\ldots dh_p$ shows), but the domain of integration is printed $\mathbb{R}^n$, the product runs over

$1 \leqslant j \leqslant n$, and a) asserts convexity on $\mathbb{R}^n$. The integer n (the dimension of the manifold X appearing in e)) is unrelated to p.

- **Correction / repair:** In the display replace $\int_{\mathbb{R}^n}$ by $\int_{\mathbb{R}^p}$ and $\prod_{1\leqslant j\leqslant n}$ by $\prod_{1\leqslant j\leqslant p}$; in a) replace "convex on $\mathbb{R}^n$" by "convex on $\mathbb{R}^p$".

CI-M21. Theorem 5.21, proof: λ must be shrunk so that $\widetilde{u} = u$ on $\partial\Omega$

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 44, proof of Theorem 5.21, last paragraph ("observe that $\widetilde{u}$ is the uniform limit of $\widetilde{u}_\alpha$").
- **Printed text:** In order to see that $\widetilde{u}$ is plurisubharmonic on X, observe that $\widetilde{u}$ is the uniform limit of $\widetilde{u}_\alpha$ with $\widetilde{u}_\alpha = \max\{u, M_{(\eta_1\ldots\eta_\alpha)}(u_1\ldots u_\alpha)\}$ on $\bigcup_{1\leqslant\beta\leqslant\alpha}\Omega_\beta$ and $\widetilde{u}_\alpha = u$ on the complement.
- **Issue:** The covering (Ω_α) is locally finite in Ω only, so $\widetilde{u}_\alpha$ is stationary near each point of Ω but not near $\partial\Omega$, where the construction only gives $0 \leqslant \widetilde{u} - \widetilde{u}_\alpha \leqslant \lambda$. As $\lambda \in C^0(\Omega)$, $\lambda > 0$, is arbitrary (e.g. $\lambda \equiv 1$), λ need not tend to 0 at $\partial\Omega$; then $\widetilde{u}_\alpha \to \widetilde{u}$ is not uniform, and worse, $\widetilde{u}$ defined by $\widetilde{u} = M_{(\eta_\alpha)}(u_\alpha)$ on Ω and $\widetilde{u} = u$ on $X \smallsetminus \Omega$ need not be continuous across $\partial\Omega$, so neither $\widetilde{u} \in C^0(X)$ nor $\widetilde{u} \in \mathrm{Psh}(X)$ is proved.
- **Correction / repair:** At the beginning of the proof replace λ by $\lambda' = \min\{\lambda, d(\cdot, X \smallsetminus \Omega)\}$ (any continuous λ' with $0 < \lambda' \leqslant \lambda$ tending to 0 at $\partial\Omega$ will do; this only strengthens the conclusion). Then $u \leqslant \widetilde{u} \leqslant u + \lambda'$ forces $\widetilde{u} \to u$ at $\partial\Omega$, whence the uniform convergence $\widetilde{u}_\alpha \to \widetilde{u}$, $\widetilde{u} \in C^0(X)$ and $\widetilde{u} \in \mathrm{Psh}(X)$.

CI-M22. (6.3) Hartogs figure: ω' must be non empty

- **Type:** missing hypothesis.
- **Precise location:** printed p. 45, (6.3) Hartogs figure, hypotheses on ω'.
- **Printed text:** Let $\omega \subset \mathbb{C}^{n-1}$ be a connected open set and $\omega' \subsetneq \omega$ an open subset.
- **Issue:** Nothing excludes $\omega' = \emptyset$, in which case $\Omega = (D(R) \smallsetminus \overline{D}(r)) \times \omega$ and the asserted extension fails: $f(z) = 1/z_1 \in \mathcal{O}(\Omega)$ has no extension to $\widetilde{\Omega} = D(R) \times \omega$ (for any $0 \leqslant r < R$). The proof indeed uses $\widetilde{f} = f$ on $D(R) \times \omega'$ to conclude by connectedness, which is vacuous for $\omega' = \emptyset$.
- **Correction / repair:** Replace "$\omega' \subsetneq \omega$ an open subset" by "$\emptyset \neq \omega' \subsetneq \omega$ an open subset".

CI-M23. (6.3): the factors of $\widetilde{\Omega}$ are interchanged on p. 46

- **Type:** notation error.
- **Precise location:** printed p. 46, (6.3) Hartogs figure, sentence introducing the Cauchy formula.
- **Printed text:** Then every function $f \in \mathcal{O}(\Omega)$ can be extended to $\widetilde{\Omega} = \omega \times D(R)$ by means of the Cauchy formula.
- **Issue:** The filled Hartogs figure is defined on p. 45 as $\widetilde{\Omega} = D(R) \times \omega \subset \mathbb{C} \times \mathbb{C}^{n-1}$, and the text two lines below again writes $\widetilde{f} \in \mathcal{O}(D(R) \times \omega)$; the order of the factors is inverted here.
- **Correction / repair:** Replace $\widetilde{\Omega} = \omega \times D(R)$ by $\widetilde{\Omega} = D(R) \times \omega$.

CI-M24. Remark 6.8, proof: K'_ν must be a compact neighborhood of K_ν

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 48, proof of Remark 6.8, first sentence.
- **Printed text:** we may define K_ν inductively by $K_0 = \emptyset$ and $K_{\nu+1} = (K'_\nu \cup L_\nu)^\wedge_{\mathcal{O}(X)}$, where K'_ν is a neighborhood of K_ν.

- **Issue:** The holomorphic hull is defined in (6.5) only for compact sets, and holomorphic convexity of X only gives compactness of hulls of compact sets. An arbitrary neighborhood K'_ν of K_ν need not be relatively compact, so $(K'_\nu \cup L_\nu)^\wedge$ need not be defined, nor compact.

- **Correction / repair:** Replace "where K'_ν is a neighborhood of K_ν" by "where K'_ν is a compact neighborhood of K_ν".

CI-M25. Theorem 6.14, proof: $\mathcal{O}(\Omega)$ should be $\mathcal{O}(X)$

- **Type:** notation error.

- **Precise location:** printed p. 49, proof of Theorem 6.14, first sentence.

- **Printed text:** For every point $a \in L_\nu := K_{\nu+2} \smallsetminus K^\circ_{\nu+1}$, one can select $g_{\nu,a} \in \mathcal{O}(\Omega)$ such that $\sup_{K_\nu} |g_{\nu,a}| < 1$ and $|g_{\nu,a}(a)| > 1$.

- **Issue:** Theorem 6.14 deals with an abstract holomorphically convex manifold X; no open set Ω occurs in its statement or proof. The functions are furnished by the definition of $\widehat{K_\nu}$ in X, hence belong to $\mathcal{O}(X)$.

- **Correction / repair:** Replace $g_{\nu,a} \in \mathcal{O}(\Omega)$ by $g_{\nu,a} \in \mathcal{O}(X)$.

CI-M26. Example 6.15: the condition is $\theta_j/2\pi \in \mathbb{Q}$, not $\theta_j \in \mathbb{Q}$

- **Type:** mathematical error.

- **Precise location:** printed p. 50, Example 6.15, last four lines.

- **Printed text:** (if $\theta_1, \theta_2 \in \mathbb{Q}$ and m is the least common denominator of θ_1, θ_2, then $\widetilde{f}$ is a power series of the form $\sum \alpha_k w^{mk}$). From this, it follows easily that X is holomorphically convex if and only if $\theta_1, \theta_2 \in \mathbb{Q}$.

- **Issue:** The generators are $g_1(z,w) = (z+1, e^{\mathrm{i}\theta_1} w)$, $g_2(z,w) = (z+\mathrm{i}, e^{\mathrm{i}\theta_2} w)$ with $\theta_j \in \mathbb{R}$, so $\mathcal{O}(X)$ corresponds to the entire functions $\widetilde{f}(w) = \sum_k \alpha_k w^k$ with $\widetilde{f}(e^{\mathrm{i}\theta_j} w) = \widetilde{f}(w)$, i.e. $\alpha_k \neq 0 \Rightarrow k\theta_j \in 2\pi\mathbb{Z}$. A non constant $\widetilde{f}$ therefore exists if and only if $\theta_1/2\pi$ and $\theta_2/2\pi$ are rational. As printed the criterion is false: for $\theta_1 = \theta_2 = 1 \in \mathbb{Q}$ no $k \geqslant 1$ satisfies $k \in 2\pi\mathbb{Z}$, hence $\mathcal{O}(X) = \mathbb{C}$ and the non compact manifold X is not holomorphically convex, contrary to the printed statement.

- **Correction / repair:** Replace $\theta_1, \theta_2 \in \mathbb{Q}$ by $\theta_1/2\pi, \theta_2/2\pi \in \mathbb{Q}$ in both places, m being the least common denominator of $\theta_1/2\pi$ and $\theta_2/2\pi$. (Equivalently, keep the printed conditions and write the generators as $g_j(z,w) = (z + \mathrm{i}^{\,j-1}, e^{2\pi\mathrm{i}\theta_j} w)$.). The same clause immediately before the quoted text prints "if $\theta_1 \notin \mathbb{Q}$ or $\theta_1 \notin \mathbb{Q}$"; the second θ_1 must be θ_2, and both conditions must be read as $\theta_j/2\pi \notin \mathbb{Q}$.

CI-M27. Theorem 6.14, proof: convergence is uniform only on compact subsets

- **Type:** mathematical error.

- **Precise location:** printed p. 50, proof of Theorem 6.14, last sentence.

- **Printed text:** It follows that the series $\psi(z) = \sum_{\nu\in\mathbb{N}} \sum_{a\in I_\nu} |g_{\nu,a}(z)|^{2p(\nu)}$ converges uniformly to a real analytic function $\psi \in \mathrm{Psh}(X)$ (see Exercise 8.11).

- **Issue:** The convergence is not uniform on X: the tail $\sum_{\mu\geqslant N} \sum_{a\in I_\mu} |g_{\mu,a}|^{2p(\mu)}$ is $\geqslant N$ at every point of L_N (by the construction $\sum_{a\in I_\nu} |g_{\nu,a}|^{2p(\nu)} \geqslant \nu$ on L_ν), so it does not tend to 0 uniformly. What the estimates $\sum_{a\in I_\nu} |g_{\nu,a}|^{2p(\nu)} \leqslant 2^{-\nu}$ on K_ν do give is normal convergence on every compact subset of X, which is exactly the hypothesis of Exercise 8.11 (p. 62).

- **Correction / repair:** Replace "converges uniformly" by "converges uniformly on every compact subset of X".

CI-M28. §7.B: the partial infimum is taken over an undefined set Ω

- **Type:** notation error.
- **Precise location:** printed p. 56, §7.B, first paragraph.
- **Printed text:** However, if v is a plurisubharmonic function on $X \times \mathbb{C}^n$, the partial minimum function on X defined by $u(\zeta) = \inf_{z\in\Omega} v(\zeta, z)$ need not be plurisubharmonic.
- **Issue:** v is given on all of $X \times \mathbb{C}^n$ and the set Ω is not introduced at this point; in the counterexample which follows, $v(\zeta, z) = |z|^2 + 2\operatorname{Re}(z\zeta)$ is defined on $\mathbb{C} \times \mathbb{C}$ and the infimum is over all $z \in \mathbb{C}$.
- **Correction / repair:** Write $u(\zeta) = \inf_{z\in\mathbb{C}^n} v(\zeta, z)$ (or introduce an open set $\Omega \subset X \times \mathbb{C}^n$ and set $u(\zeta) = \inf_{z\in\Omega_\zeta} v(\zeta, z)$, as in Th. 7.5).

CI-M29. Theorem 7.5, proof: the analytic disc is not shown to lie in Ω

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 57, proof of Theorem 7.5, first part, sentence beginning "Since $v(\zeta_0+wa, f(w))$ is subharmonic in w".
- **Printed text:** there exists a holomorphic function f on the unit disk, smooth up to the boundary, whose real part solves the Dirichlet problem $\operatorname{Re} f(e^{\mathrm{i}\theta}) = g(\zeta_0 + e^{\mathrm{i}\theta}a)$. Since $v(\zeta_0 + wa, f(w))$ is subharmonic in w, we get the mean value inequality.
- **Issue:** The function v is only defined on Ω, and all that the Dirichlet problem gives is $\operatorname{Re} f(e^{\mathrm{i}\theta}) = g(\zeta_0 + e^{\mathrm{i}\theta}a) \in \omega_{\zeta_0+e^{\mathrm{i}\theta}a}$, i.e. $\partial\Delta_f \subset \Omega$ for the analytic disc $\Delta_f = \{(\zeta_0 + wa, f(w));\ |w| \leqslant 1\}$. Nothing shows that $\operatorname{Re} f(w) \in \omega_{\zeta_0+wa}$ for $|w| < 1$, and an analytic disc whose boundary lies in an open set need not lie in it (e.g. $\Omega = \mathbb{C}^2 \smallsetminus \{z_1 = 0\}$ and $w \mapsto (w, 0)$). Without this, $v(\zeta_0 + wa, f(w))$ is not even defined and the mean value inequality, hence $u(\zeta_0) \leqslant v(\zeta_0, f(0))$, is unjustified. This is moreover the only place where the pseudoconvexity of Ω enters the first part of the proof.
- **Correction / repair:** Insert the continuity principle: for $s \in [0, 1]$ let f_s be holomorphic on the unit disc with $\operatorname{Re} f_s(e^{\mathrm{i}\theta}) = g(\zeta_0 + se^{\mathrm{i}\theta}a)$ and put $\Delta_s = \{(\zeta_0 + swa, f_s(w));\ |w| \leqslant 1\}$. Then $\partial\Delta_s \subset \Omega$ for every s, Δ_0 is the single point $(\zeta_0, f_0(0)) \in \Omega$, and $s \mapsto \Delta_s$ is continuous; applying the maximum principle to a plurisubharmonic exhaustion of the pseudoconvex open set Ω (exactly as in the proof of c) $\Rightarrow$ d) of Th. 7.2, p. 54) shows that $\{s;\ \Delta_s \subset \Omega\}$ is open and closed in $[0, 1]$, whence $\Delta_1 = \Delta_f \subset \Omega$.

CI-M30. Theorem 7.5: $\mathrm{pr}_{\mathbb{C}^n}$ should be $\mathrm{pr}_{\mathbb{C}^p}$

- **Type:** notation error.
- **Precise location:** printed p. 57, Theorem 7.5, last line of the statement, and proof, sentence beginning "Now, if $\mathbb{C} \ni w \longmapsto \zeta_0 + wa$".
- **Printed text:** is plurisubharmonic or locally $\equiv -\infty$ on $\Omega' = \mathrm{pr}_{\mathbb{C}^n}(\Omega)$. …Now, if $\mathbb{C} \ni w \longmapsto \zeta_0 + wa$, $a \in \mathbb{C}^n$, $|w| \leqslant 1$ is a complex disk Δ contained in Ω, there exists a holomorphic function f … .
- **Issue:** The function u is a function of $\zeta \in \mathbb{C}^p$, so Ω' must be the projection of $\Omega \subset \mathbb{C}^p \times \mathbb{C}^n$ on the *first* factor; Corollary 7.6 confirms this ("the projection Ω' of Ω on $\mathbb{C}^p$ is pseudoconvex"). As printed, $\Omega' \subset \mathbb{C}^n$ and the conclusion is meaningless. The same confusion occurs twice in the proof: the disc $w \mapsto \zeta_0 + wa$ has $\zeta_0 \in \mathbb{C}^p$, so $a \in \mathbb{C}^p$ and not $a \in \mathbb{C}^n$, and this disc is contained in $\Omega' \subset \mathbb{C}^p$, not in Ω.
- **Correction / repair:** In the statement replace $\mathrm{pr}_{\mathbb{C}^n}(\Omega)$ by $\mathrm{pr}_{\mathbb{C}^p}(\Omega)$; in the proof replace "$a \in \mathbb{C}^n$" by "$a \in \mathbb{C}^p$" and "is a complex disk Δ contained in Ω" by "is a complex disk Δ contained in Ω'".

CI-M31. Theorem 7.5, proof: $\delta_\Omega(\zeta, z)$ used for the boundary distance

- **Type:** notation error.
- **Precise location:** printed p. 57, proof of Theorem 7.5, displayed auxiliary exhaustion ψ.
- **Printed text:** $\psi(\zeta, z) = \max\{|\zeta|^2 + |\operatorname{Re} z|^2, -\log\delta_\Omega(\zeta, z)\}$.
- **Issue:** The symbol δ_Ω is defined on p. 53 as a function of a point of Ω and of a complex direction, $\delta_\Omega(z, \xi) = \sup\{r > 0;\ z + D(r)\xi \subset \Omega\}$, and is used in that sense on p. 55 ($\delta_\Omega((0, z'), (1, 0))$). Here (ζ, z) is one point of $\Omega \subset \mathbb{C}^p \times \mathbb{C}^n$, the two entries have different dimensions, and what is needed (and what makes ψ plurisubharmonic by Th. 7.2 e)) is the distance to the boundary.
- **Correction / repair:** Replace $-\log\delta_\Omega(\zeta, z)$ by $-\log d((\zeta, z), \complement\Omega)$.

CI-M32. Lemma 7.11, proof: last term of $J[\xi', \eta'']$ should carry $\partial/\partial z_j$

- **Type:** mathematical error.
- **Precise location:** printed p. 59, proof of Lemma 7.11, display of $J[\xi', \eta'']$.
- **Printed text:** $J[\xi', \eta''] = -\mathrm{i}\sum \xi_j \dfrac{\partial\overline{\eta}_k}{\partial z_j}\dfrac{\partial}{\partial\overline{z}_k} + \overline{\eta}_k\dfrac{\partial\xi_j}{\partial\overline{z}_k}\dfrac{\partial}{\partial\overline{z}_j}$,.
- **Issue:** One has $[\xi', \eta''] = \sum \xi_j(\partial\overline{\eta}_k/\partial z_j)\partial/\partial\overline{z}_k - \sum\overline{\eta}_k(\partial\xi_j/\partial\overline{z}_k)\partial/\partial z_j$, and since $J = \mathrm{i}$ on $\partial/\partial z_j$ and $J = -\mathrm{i}$ on $\partial/\partial\overline{z}_k$, $J[\xi', \eta''] = -\mathrm{i}\big(\sum\xi_j(\partial\overline{\eta}_k/\partial z_j)\partial/\partial\overline{z}_k + \sum\overline{\eta}_k(\partial\xi_j/\partial\overline{z}_k)\partial/\partial z_j\big)$. The bar on the last z_j is wrong; the very next display, obtained by applying this field to ρ, correctly contains $\partial\rho/\partial z_j$.
- **Correction / repair:** In the display replace the last factor $\dfrac{\partial}{\partial\overline{z}_j}$ by $\dfrac{\partial}{\partial z_j}$.

Typographical and editorial corrections

- **CI-T01.** printed p. 8, §1.A, the sentence following the display defining $\xi \cdot f$. *Printed:* For every $a \in \Omega$, the n-tuple $(\partial/\partial x_j)_{1\leqslant j\leqslant m}$ is therefore a basis of the tangent space to M at a. *Issue:* The manifold M has real dimension m and the tuple is explicitly indexed by $1 \leqslant j \leqslant m$; the letter n has no meaning at this point of Chapter I. *Correction:* Replace "the n-tuple" by "the m-tuple".
- **CI-T02.** printed p. 10, the parenthetical name attached to formula (1.8). *Printed:* $d(u \wedge v) = du \wedge v + (-1)^{\deg u} u \wedge dv,\qquad$ (*Leibnitz' rule*). *Issue:* The name is spelt Leibniz; the book itself writes "Leibniz' formula" on p. 337, so the spelling is also internally inconsistent. *Correction:* Replace "Leibnitz' rule" by "Leibniz' rule".
- **CI-T03.** printed p. 10, §1.B.4, first sentence. *Printed:* Recall that a cohomological complex $K^\bullet = \bigoplus_{p\in\mathbb{Z}}$ is a collection of modules K^p over some ring. *Issue:* The summands of the direct sum are missing: the symbol $\bigoplus_{p\in\mathbb{Z}}$ is followed directly by "is a collection". *Correction:* Replace $K^\bullet = \bigoplus_{p\in\mathbb{Z}}$ by $K^\bullet = \bigoplus_{p\in\mathbb{Z}} K^p$.
- **CI-T04.** printed p. 11, §1.C, the sentence preceding Stokes' formula. *Printed:* At points of ∂K where $x_j = 0$, then $(x_1, \ldots, \widehat{x_j}, , \ldots, x_m)$ define coordinates on ∂K. *Issue:* A superfluous comma is printed after $\widehat{x_j}$ (checked on the page image). *Correction:* Replace $(x_1, \ldots, \widehat{x_j}, , \ldots, x_m)$ by $(x_1, \ldots, \widehat{x_j}, \ldots, x_m)$.
- **CI-T05.** printed p. 11, line following (1.17); same wording in Remark (2.17), printed p. 18. *Printed:* $\int_M F^\star v = \pm\int_{M'} v\quad$ according whether F preserves orientation or not. *Issue:* "According whether" is not English; the idiom is "according as" (or "according to whether"). The same construction occurs in Remark (2.17), p. 18: "according whether F preserves the orientation or not". *Correction:* Replace "according whether" by "according as" (pp. 11 and 18).
- **CI-T06.** printed p. 11, §1.B.5, sentence following (1.14). *Printed:* Moreover, we always have $d(F^\star v) = F^\star(dv)$. It follows that the pull-back $F^\star$ is closed if v is closed and exact if v is exact. *Issue:* $F^\star$ is a linear map, not a differential form; it is the pull-back $F^\star v$ that is closed (resp. exact). *Correction:* Replace "the pull-back $F^\star$ is closed" by "the pull-back $F^\star v$ is closed".

- **CI-T07.** printed p. 12, first line of the proof of Stokes' formula (1.18). *Printed:* indeed if $u = \sum_{1\leqslant j\leqslant n} u_j\, dx_1 \wedge \ldots \widehat{dx_j} \ldots dx_m$. *Issue:* The manifold has dimension m, the very next display sums over $1 \leqslant j \leqslant m$, and n is not defined in §1.C. *Correction:* Replace $\sum_{1\leqslant j\leqslant n}$ by $\sum_{1\leqslant j\leqslant m}$.

- **CI-T08.** printed p. 12, §1.D: the displayed homotopy formula labelled (1.20) and the statement "(1.20) Corollary" three lines below; citation at the top of p. 13. *Printed:* (1.20) $\quad Kdu + dKu = i_1^\star u - i_0^\star u$, and, three lines below, "(1.20) **Corollary.** Let $F, G : M \longrightarrow M'$ be $\mathcal{C}^\infty$ maps." *Issue:* The number (1.20) is used twice on the same page. The ambiguity is real: the proof of the Corollary, at the top of p. 13, begins "by (1.20) applied to $u = H^\star v$", which refers to the displayed formula and not to the Corollary being proved. *Correction:* Renumber the displayed homotopy formula, e.g. as (1.19′) (primed numbers are already used, cf. (1.7′)), and adapt the citation at the top of p. 13.

- **CI-T09.** printed p. 13, statement of Corollary (1.21). *Printed:* if there is a smooth homotopy $H : [0,1] \times M \to M$ from a constant map $F : M \to \{x_0\}$ to $G = \mathrm{Id}_X$. *Issue:* The manifold is M; the symbol X occurs neither in the statement nor in its proof. *Correction:* Replace $G = \mathrm{Id}_X$ by $G = \mathrm{Id}_M$.

- **CI-T10.** printed p. 14, Definition (2.2), item a), end of the first line. *Printed:* $\big($resp. the space $C^s(M, \Lambda^p T_M^\star)\big)$, [black rule]. *Issue:* An overfull-`hbox` rule is printed in the right margin at the end of the first line of item a), just after "$\big($resp. the space $C^s(M, \Lambda^p T_M^\star)\big)$,". *Correction:* Reflow the line so that the black rule disappears.

- **CI-T11.** printed p. 15, §2.B.1, first two lines. *Printed:* Let $T \in {}^s\mathcal{D}'^{\,q}(M) = {}^s\mathcal{D}'_{m-p}(M)$. The exterior derivative $dT \in {}^{s+1}\mathcal{D}'^{\,q+1}(M) = {}^{s+1}\mathcal{D}'_{m-q-1}$ is defined by. *Issue:* By Definition (2.3) a current of degree q has dimension $m-q$, so the first equality must read ${}^s\mathcal{D}'_{m-q}(M)$; the letter p is not defined here, and the next display correctly uses $m-q-1$. In that display the argument (M) is missing after ${}^{s+1}\mathcal{D}'_{m-q-1}$. *Correction:* Replace ${}^s\mathcal{D}'_{m-p}(M)$ by ${}^s\mathcal{D}'_{m-q}(M)$, and ${}^{s+1}\mathcal{D}'_{m-q-1}$ by ${}^{s+1}\mathcal{D}'_{m-q-1}(M)$.

- **CI-T12.** printed p. 18, §2.C.2, the sentence following the display of the orientation isomorphism. *Printed:* $T_{M_1,x}/T_{F^{-1}(Z),x} \longrightarrow T_{M_2,F(x)}/T_{Z,F(x)}$, induced by d_xF at every point $x \in Z$. *Issue:* The point x is the base point in M_1 of the displayed isomorphism, so it runs over $F^{-1}(Z) \subset M_1$ and not over $Z \subset M_2$. *Correction:* Replace "at every point $x \in Z$" by "at every point $x \in F^{-1}(Z)$".

- **CI-T13.** printed p. 22, §3.B, the sentence introducing the polydisk (3.6). *Printed:* The open polydisk $D(z_0, R)$ of center $(z_{0,1}, \ldots, z_{0,n})$ and (multi)radius $R = (R_1, , \ldots, R_n)$ is defined as the product of the disks of center $z_{0,j}$ and radius $R_j > 0$. *Issue:* A superfluous comma is printed after R_1 (checked on the page image). *Correction:* Replace $R = (R_1, , \ldots, R_n)$ by $R = (R_1, \ldots, R_n)$.

- **CI-T14.** printed p. 24, formula (3.16″). *Printed:* $d''u = \sum_{I,J} \sum_{1\leqslant k\leqslant n.} \frac{\partial u_{I,J}}{\partial \overline{z}_k}\, d\overline{z}_k \wedge dz_I \wedge d\overline{z}_J$. *Issue:* A full stop has been typeset inside the subscript of the second summation sign, which reads "$1 \leqslant k \leqslant n.$"; compare (3.16′), whose subscript is "$1 \leqslant k \leqslant n$". The display already ends with a period after $d\overline{z}_J$. *Correction:* Remove the period from the subscript: $\sum_{1\leqslant k\leqslant n}$.

- **CI-T15.** printed p. 25, §3.C, the sentence beginning "Let $F : X_1 \longrightarrow X_2$ be a holomorphic map". *Printed:* The pull-back $F^\star u$ of a (p,q)-form u of bidegree (p,q) on X_2 is again homogeneous of bidegree (p,q). *Issue:* The bidegree of u is given twice in the same clause. *Correction:* Delete one of the two, e.g. "The pull-back $F^\star u$ of a form u of bidegree (p,q) on X_2 …".

- **CI-T16.** printed p. 26, §3.D, the sentence introducing the change of variable in the computation of I_m. *Printed:* The last equality is easily seen by performing the change of variable $y = \varepsilon x$ in the integral $\int_{\mathbb{R}^m} \varepsilon^2(|x|^2 + \varepsilon^2)^{-1-m/2} f(x)\, d\lambda(x) = \int_{\mathbb{R}^m} (|y|^2 + 1)^{-1-m/2} f(\varepsilon y)\, d\lambda(y)$. *Issue:* The substitution actually performed in the display is $x = \varepsilon y$: it gives $|x|^2 + \varepsilon^2 = \varepsilon^2(|y|^2 + 1)$, $d\lambda(x) = \varepsilon^m d\lambda(y)$ and $f(\varepsilon y)$ on the right-hand side. With $y = \varepsilon x$ one would obtain $f(y/\varepsilon)$. *Correction:* Replace "the change of variable $y = \varepsilon x$" by "the change of variable $x = \varepsilon y$".

- **CI-T17.** printed p. 27, last line of the proof of the Koppelman formula (3.26). *Printed:* which is itself equivalent to the Koppelman formula by integrating $d''v$ by parts. *Correction:* Replace "by integrating $d''v$ by parts" by "by integrating $d''w$ by parts".

- **CI-T18.** printed p. 29, proof of the Dolbeault–Grothendieck lemma (3.29), the paragraph beginning "As u_1 is of type $(p,0)$ in z". *Printed:* As u_1 is of type $(p,0)$ in z and $(q,0)$ in w, we get $d''_z(g^\star v_1) = g^\star d_w v_1 = 0$, hence $d_w v_1 = 0$. *Issue:* The form whose type is used is $v_1(z,w) = \int_\Omega K^{p,q}(z,w,\zeta) \wedge d''\psi(\zeta) \wedge v(\zeta)$, which is of type $(p,0)$ in z and $(q,0)$ in w by the definition of $K^{p,q}$; the form u_1 is introduced only three lines below and is of type $(q-1,0)$ in w. *Correction:* Replace "As u_1 is of type" by "As v_1 is of type".

- **CI-T19.** printed p. 33, last line of the proof of Lemma (4.13). *Printed:* we get $u(a) \leqslant \mu_S(u\,;a,r) < u(x_0)$, a contradiction. *Issue:* The argument runs along the sequence $r_\nu \to 0$ supplied by property 4.12 e), and the mean value inequality $u(a) \leqslant \mu_S(u\,;a,\cdot)$ is available only for these radii; the letter r is not defined in the proof. *Correction:* Replace $\mu_S(u\,;a,r)$ by $\mu_S(u\,;a,r_\nu)$.

- **CI-T20.** printed p. 36, last sentence of the paragraph following Theorem (4.20). *Printed:* for example, if v is the characteristic function of a compact subset $K \subset \Omega$ of measure 0, the subharmonic representant of v is $u = 0$. *Issue:* "Representant" is the French *représentant*; the English word is "representative". *Correction:* Replace "representant" by "representative".

- **CI-T21.** printed p. 37, proof of Proposition (4.22), the definition of $\widetilde{G}_x$. *Printed:* $\widetilde{G}_x(y) = \begin{cases} G_r(x,y) & \text{if } x \in B(0,r) \\ 0 & \text{if } x \notin B(0,r). \end{cases}$. *Correction:* Replace the conditions "if $x \in B(0,r)$" and "if $x \notin B(0,r)$" by "if $y \in B(0,r)$" and "if $y \notin B(0,r)$".

- **CI-T22.** printed p. 41, proof of Theorem 5.11, first sentence. *Printed:* It is enough to prove the result when $X = \Omega_1 \subset \mathbb{C}^n$ and $X = \Omega_2 \subset \mathbb{C}^p$ are open subsets . *Issue:* Theorem 5.11 concerns a holomorphic map $F : X \longrightarrow Y$ and $v \in \mathrm{Psh}(Y)$; the second occurrence of X must be Y, otherwise the sentence asserts $\Omega_1 = \Omega_2$ and $n = p$. *Correction:* Replace "$X = \Omega_2 \subset \mathbb{C}^p$" by "$Y = \Omega_2 \subset \mathbb{C}^p$" (and delete the spurious space before the full stop).

- **CI-T23.** printed p. 41, Theorem 5.13, statement; used on printed p. 56, Example 7.4 c). *Printed:* If $\Omega = \omega + \mathrm{i}\omega'$ where ω, ω' are open subsets of $\mathbb{R}^n$, and if $u(z)$ is a plurisubharmonic function on Ω that depends only on $x = \mathrm{Re}\, z$, then $\omega \ni x \longmapsto u(x)$ is convex. *Correction:* State 5.13 as an equivalence: "Let $\Omega = \omega + \mathrm{i}\omega'$ with ω, ω' open in $\mathbb{R}^n$ and let $u(z) = h(\mathrm{Re}\, z)$. Then u is plurisubharmonic on Ω if and only if h is locally convex on ω (convex, if ω is convex)."

- **CI-T24.** printed p. 42, proof of Lemma 5.17, second sentence. *Printed:* Hence there is a a finite set I of indices α such that $\Omega_\alpha \ni z_0$. *Issue:* The indefinite article is doubled. *Correction:* Replace "there is a a finite set" by "there is a finite set".

- **CI-T25.** printed p. 44, proof of Theorem 5.21 (Richberg), sentence beginning "By construction". *Printed:* By construction, $\widetilde{u}$ is smooth on Ω and satisfies $u \leqslant \widetilde{u} \leqslant u + \lambda$, $Hu \geqslant (1-\lambda)\gamma$ thanks to 5.18 (b,e). *Issue:* What 5.18 (b,e) yields, and what the statement of 5.21 asserts, is the estimate for the regularized function: $H\widetilde{u} \geqslant (1-\lambda)\gamma$. The tilde is missing. *Correction:* Replace $Hu \geqslant (1-\lambda)\gamma$ by $H\widetilde{u} \geqslant (1-\lambda)\gamma$.

- **CI-T26.** printed p. 45, proof of Theorem 5.23 (continued from p. 44), sentence beginning "Then for every $\varepsilon > 0$". *Printed:* the function $v_\varepsilon = v + \varepsilon u \in \mathrm{Sh}(W \smallsetminus A)$ can be extended as an upper semicontinuous on W by setting $v_\varepsilon = -\infty$ on $A \cap W$. *Issue:* The noun "function" is missing. *Correction:* Replace "as an upper semicontinuous on W" by "as an upper semicontinuous function on W".

- **CI-T27.** printed p. 46, §6.B, introductory paragraph. *Printed:* It is shown that domains of holomorphy in $\mathbb{C}^n$ are characterized a property of holomorphic convexity. *Issue:* The preposition "by" is missing. *Correction:* Replace "characterized a property" by "characterized by a property".

- **CI-T28.** printed p. 47, Remark 6.8, statement. *Printed:* A complex manifold X is holomorphically convex if and only if there is an exhausting sequence of holomorphically compact subsets $K_\nu \subset X$, i.e. compact sets such that $X = \bigcup K_\nu$, $\widehat{K}_\nu = K_\nu$, $K_\nu^\circ \supset K_{\nu-1}$. *Correction:* Replace "holomorphically compact subsets" by "holomorphically convex compact subsets".

- **CI-T29.** printed p. 48, proof of Proposition 6.9, sentence following the Cauchy inequalities. *Printed:* As the left hand side is an analytic fuction of z in Ω, the inequality must also hold for $z \in \widehat{K}$, $\xi \in \overline{B}$. *Issue:* Misspelling. *Correction:* Replace "fuction" by "function".

- **CI-T30.** printed p. 50, Example 6.15, sentence beginning "By looking at the Taylor expansion". *Printed:* we conclude that $\widehat{f}$ must be a constant if $\theta_1 \notin \mathbb{Q}$ or $\theta_1 \notin \mathbb{Q}$. *Issue:* The two rotation angles of the generators g_1, g_2 are θ_1 and θ_2; the index of the second condition is wrong. *Correction:* Replace "if $\theta_1 \notin \mathbb{Q}$ or $\theta_1 \notin \mathbb{Q}$" by "if $\theta_1 \notin \mathbb{Q}$ or $\theta_2 \notin \mathbb{Q}$" (and see the correction of the rationality condition itself).

- **CI-T31.** printed p. 51, proof of Lemma 6.17, sentence beginning "We can cover X by countably many neighborhoods". *Printed:* We can cover X by countably many neighborhoods $(V_j)_{j\geqslant 1}$, for which we have a smooth plurisubharmonic functions $u_j \in \mathrm{Psh}(X)$ such that u_j is strictly plurisubharmonic on V_j. *Issue:* Number disagreement between the article and the noun. *Correction:* Replace "we have a smooth plurisubharmonic functions u_j" by "we have smooth plurisubharmonic functions u_j".

- **CI-T32.** printed p. 52, Proposition 6.20 e), statement. *Printed:* then the open set $\Omega = u^{-1}(]-\infty, c[$ is weakly (resp. strongly) pseudoconvex. *Issue:* The closing parenthesis of $u^{-1}(\cdot)$ is missing (the display for X_c two lines below is printed correctly). Incidentally, the constant c is not quantified in the statement. *Correction:* Write "for every $c \in \mathbb{R}$, the open set $\Omega = u^{-1}(]-\infty, c[)$ is weakly (resp. strongly) pseudoconvex".

- **CI-T33.** printed p. 53, proof of Proposition 6.20, item a). *Printed:* For $K \subset X$, $L \subset Y$ compact, we have $(K \times L)^{\wedge}_{\mathcal{O}(X\times Y)} = \widehat{K}_{\mathcal{O}(X)} \times \widehat{K}_{\mathcal{O}(Y)}$. *Issue:* K is a compact subset of X and L a compact subset of Y, so the second factor must be the hull of L in Y; $\widehat{K}_{\mathcal{O}(Y)}$ is meaningless. *Correction:* Replace $\widehat{K}_{\mathcal{O}(Y)}$ by $\widehat{L}_{\mathcal{O}(Y)}$.

- **CI-T34.** printed p. 54, Theorem 7.2, sentence following the list a)–e). *Printed:* If one of these properties hold, Ω is said to be a pseudoconvex open set. *Issue:* Subject–verb disagreement: the subject is "one". *Correction:* Replace "If one of these properties hold" by "If one of these properties holds".

- **CI-T35.** printed p. 55, Example 7.4 b), sentence after the definition of the Hartogs domain. *Printed:* is pseudoconvex if and and only if u is plurisubharmonic. *Issue:* The word "and" is doubled. *Correction:* Replace "if and and only if" by "if and only if".

- **CI-T36.** printed p. 55, proof of Proposition 7.3 c), and printed p. 63, Exercise 8.16 c). *Printed:* J.E. Fornaess in [Fornaess 1977] has constructed an increasing sequence of 2-dimensional Stein (even affine algebraic) manifolds X_ν whose union is not Stein; see Exercise 8.16. *Correction:* Add to the References: "Fornaess, J.E. [1976] — An increasing sequence of Stein manifolds whose limit is not Stein, Math. Ann. 223 (1976) 275–277", and replace [Fornaess 1977] by [Fornaess 1976] on pp. 55 and 63.

- **CI-T37.** printed p. 56, Example 7.4 c), last sentence. *Printed:* Therefore Ω if pseudoconvex if and only if every connected component of ω is convex. *Issue:* "if" is printed for "is". *Correction:* Replace "Therefore Ω if pseudoconvex" by "Therefore Ω is pseudoconvex".

- **CI-T38.** printed p. 56, Example 7.4 c), second sentence. *Printed:* Then of course $-\log d(z, \complement\Omega) = -\log(x, \complement\omega)$ depends only on the real part $x = \mathrm{Re}\, z$. *Issue:* The distance function d is missing on the right-hand side; $-\log(x, \complement\omega)$ is not a defined expression. *Correction:* Replace $-\log(x, \complement\omega)$ by $-\log d(x, \complement\omega)$.

- **CI-T39.** printed p. 56, Example 7.4 d), definition of a Reinhardt domain. *Printed:* if $(e^{\mathrm{i}\theta_1} z_1, \ldots, e^{\mathrm{i}\theta_n} z_n)$ is in Ω for every $z = (z_1, \ldots, z_n) \in \Omega$ and $\theta_1, \ldots, \theta_n \in \mathbb{R}^n$. *Issue:* Each θ_j is a real number; it is the n-tuple that lies in $\mathbb{R}^n$. *Correction:* Replace "$\theta_1, \ldots, \theta_n \in \mathbb{R}^n$" by "$\theta_1, \ldots, \theta_n \in \mathbb{R}$".

- **CI-T40.** printed p. 57, proof of Theorem 7.5, second part. *Printed:* There is slowly increasing sequence $C_j \to +\infty$ such that each function $\psi_j = (C_j - \psi \star \rho_{1/j})^{-1}$ is an "exhaustion". *Issue:* The indefinite article is missing. *Correction:* Replace "There is slowly increasing sequence" by "There is a slowly increasing sequence".

- **CI-T41.** printed p. 58, §7.C, the two displays labelled (7.9). *Printed:* (7.9) $\rho < 0$ on Ω, $\rho = 0$ and $d\rho \neq 0$ on $\partial\Omega$. …(7.9) ${}^hT_{\partial\Omega} = T_{\partial\Omega} \cap JT_{\partial\Omega}$. *Issue:* Two different displayed formulas on p. 58 bear the number (7.9), and the number (7.8) is never used (§7 goes from Th. 7.7 directly to (7.9)). The citation "$\rho = -\delta$ is C^2 near

$\partial\Omega$ and satisfies (7.9)" in the proof of Th. 7.12 (p. 59) is thereby ambiguous; it refers to the first display. *Correction:* Number the conditions defining a defining function (7.8), keep (7.9) for ${}^hT_{\partial\Omega} = T_{\partial\Omega} \cap JT_{\partial\Omega}$, and change the citation in the proof of Th. 7.12 (p. 59) to (7.8).

- **CI-T42.** printed p. 61, Exercise 8.5, first sentence. *Printed:* be a smooth form of bidegree $(0,q)$ on a polydisk $\Omega = D(0,R) \subset \mathbb{C}^n$, such that $d''v = 0$, and let $\omega = D(0,r) \Subset \omega$. *Issue:* The relation printed is $\omega \Subset \omega$; the smaller polydisk must be relatively compact in the polydisk $\Omega = D(0,R)$. *Correction:* Replace "$\omega = D(0,r) \Subset \omega$" by "$\omega = D(0,r) \Subset \Omega$".

- **CI-T43.** printed p. 61, Exercise 8.7, first sentence and item a). *Printed:* Let ω be an open subset of $\mathbb{R}^n$, $n \geqslant 2$, and u a subharmonic function which is not locally $-\infty$. a) For every open set $\omega \Subset \Omega$, show that .... *Issue:* The same letter ω is used for the ambient open set and, in a), for a relatively compact subset of the never introduced set Ω. *Correction:* In the first sentence replace ω by Ω: "Let Ω be an open subset of $\mathbb{R}^n$, $n \geqslant 2$, and u a subharmonic function on Ω which is not locally $-\infty$."

- **CI-T44.** printed p. 62, Exercise 8.11, Hint. *Printed:* Let $g_j(z) = \overline{g_j(\overline{z})}$ be the conjugate function of f_j and let $U(z,w) = \sum_{j\in\mathbb{N}} f_j(z)g_j(w)$ on $X \times X$. *Issue:* The formula defines g_j in terms of itself and does not involve f_j at all. The conjugate function of f_j is $g_j(z) = \overline{f_j(\overline{z})}$, which is holomorphic and satisfies $g_j(\overline{z}) = \overline{f_j(z)}$, so that $U(z,\overline{z}) = \sum_j |f_j(z)|^2 = u(z)$, as the hint requires. *Correction:* Replace "$g_j(z) = \overline{g_j(\overline{z})}$" by "$g_j(z) = \overline{f_j(\overline{z})}$".

- **CI-T45.** printed p. 62, Exercise 8.13, first sentence. *Printed:* Let $\Omega \subset \mathbb{C}^n$ be a bounded open set with C^2 boundary and $\rho \in C^2(\Omega,\mathbb{R})$ such that $\rho < 0$ on Ω, $\rho = 0$ and $d\rho \neq 0$ on $\partial\Omega$. *Issue:* The conditions $\rho = 0$ and $d\rho \neq 0$ on $\partial\Omega$ require ρ to be C^2 up to the boundary, which $C^2(\Omega,\mathbb{R})$ does not provide. The defining function of (7.9), p. 58, is taken in $C^2(\overline{\Omega})$. *Correction:* Replace $\rho \in C^2(\Omega,\mathbb{R})$ by $\rho \in C^2(\overline{\Omega},\mathbb{R})$.

- **CI-T46.** printed p. 62, Exercise 8.10, statement. *Printed:* Compute the rank of the Levi form of the ellipsoid $|z_1|^2 + |z_3|^4 + |z_3|^6 < 1$ at every point of the boundary. *Correction:* Replace $|z_1|^2 + |z_3|^4 + |z_3|^6 < 1$ by $|z_1|^2 + |z_2|^4 + |z_3|^6 < 1$.

- **CI-T47.** printed p. 63, Exercise 8.14 c), Hint. *Printed:* Hint: consult [Diederich-Fornaess 1976]. *Correction:* Replace [Diederich-Fornaess 1976] by [Diederich-Fornaess 1977].

Chapter II. Coherent Sheaves and Analytic Spaces

Range checked: printed pp. 65–128.

Mathematical corrections, cross-references and proof clarifications

CII-M01. p. 66: the two restriction maps in the presheaf-morphism diagram are interchanged

- **Type:** notation error.

- **Precise location:** printed p. 66, bottom of the page, commutative square defining a presheaf morphism (after Def. 1.6), the two vertical arrows.

- **Printed text:** $\mathcal{A}(V) \xrightarrow{\varphi_V} \mathcal{B}(V)$, left vertical arrow $\rho^{\mathcal{B}}_{U,V}$, right vertical arrow $\rho^{\mathcal{A}}_{U,V}$, $\mathcal{A}(U) \xrightarrow{\varphi_U} \mathcal{B}(U)$.

- **Issue:** The left column of the square is $\mathcal{A}(V) \to \mathcal{A}(U)$, so its arrow is the restriction map of $\mathcal{A}$, and the right column is $\mathcal{B}(V) \to \mathcal{B}(U)$, so its arrow is the restriction map of $\mathcal{B}$; as printed the two superscripts are exchanged. The convention is used correctly in the first paragraph of p. 67 ('$\rho^{\mathcal{B}}_{U,V}(\mathcal{A}(V)) \subset \mathcal{A}(U)$', '$\rho^{\mathcal{A}}_{U,V}$ coincides with $\rho^{\mathcal{B}}_{U,V}$ on $\mathcal{A}(V)$').

- **Correction / repair:** Label the left vertical arrow $\rho^{\mathcal{A}}_{U,V}$ and the right vertical arrow $\rho^{\mathcal{B}}_{U,V}$.

CII-M02. pp. 67-68: (1.7) is a Remark but is twice cited as 'Example 1.7'

- **Type:** cross-reference error.
- **Precise location:** printed p. 67, paragraph following (1.7); and printed p. 68, Example 1.11, last sentence.
- **Printed text:** In order to overcome the difficulty appearing in Example 1.7, it is necessary to introduce a suitable process by which we can produce a sheaf from a presheaf.
- **Issue:** Statement (1.7) is labelled '(1.7) Remark.' on p. 67. It is cited as 'Example 1.7' twice: in the paragraph just after it, and on p. 68 in Example 1.11 ('In Example 1.7, we have ...').
- **Correction / repair:** Replace 'Example 1.7' by 'Remark 1.7' in both places (or relabel (1.7) as an Example).

CII-M03. p. 69: $f_\star E_X$ is only locally isomorphic to E_Y^q for a covering map

- **Type:** mathematical error.
- **Precise location:** printed p. 69, last sentence of § 1.B, just after (1.17).
- **Printed text:** For instance, if f is a finite covering map with q sheets and if we take $\mathcal{A} = E_X$, $\mathcal{B} = E_Y$ to be constant sheaves, then $f_\star E_X \simeq E_Y^q$ and $f^{-1}E_Y = E_X$, thus $f^{-1}f_\star E_X \simeq E_X^q$ and $f_\star f^{-1}E_Y \simeq E_Y^q$.
- **Issue:** $f_\star E_X$ is the sheaf of sections of the local system attached to the covering; it is locally isomorphic to E_Y^q, but globally isomorphic to E_Y^q only when the covering is trivial. For the connected double covering $f : S^1 \to S^1$, $z \mapsto z^2$, with $E = \mathbb{Z}$, one has $\Gamma(Y, f_\star\mathbb{Z}_X) = \Gamma(X, \mathbb{Z}_X) = \mathbb{Z}$ whereas $\Gamma(Y, \mathbb{Z}_Y^{\oplus 2}) = \mathbb{Z}^2$, so $f_\star\mathbb{Z}_X \not\simeq \mathbb{Z}_Y^{\oplus 2}$. The assertion actually needed here concerns the stalks only: $(f_\star E_X)_y \simeq E^q$, hence $(f^{-1}f_\star E_X)_x \simeq E^q$ and $(f_\star f^{-1}E_Y)_y \simeq E^q$, which is what shows that the natural morphisms (1.17) are not isomorphisms.
- **Correction / repair:** Read: 'then $f_\star E_X$ is locally isomorphic to E_Y^q and $f^{-1}E_Y = E_X$, so that the stalks of $f^{-1}f_\star E_X$ and of $f_\star f^{-1}E_Y$ are isomorphic to E^q instead of E'.

CII-M04. (1.18) a), c): prime ideals and local rings need a properness hypothesis

- **Type:** missing hypothesis.
- **Precise location:** printed p. 70, (1.18) a) and (1.18) c).
- **Printed text:** a) An ideal $I \subset R$ is said to be prime if $xy \in I$ implies $x \in I$ or $y \in I$, i.e., if the quotient ring R/I is entire. [...] c) The ring R is said to be a local ring if R has a unique maximal ideal $\mathfrak{m}$ (equivalently, if R has an ideal $\mathfrak{m}$ such that all elements of $R \smallsetminus \mathfrak{m}$ are invertible).
- **Issue:** In a), the condition as stated is satisfied by $I = R$, whereas the equivalent form given ('R/I is entire') excludes it, since the zero ring is not an integral domain; the definition of a prime ideal must include $I \neq R$, as b) does for maximal ideals. In c), taking $\mathfrak{m} = R$ makes the condition 'all elements of $R \smallsetminus \mathfrak{m}$ are invertible' vacuous, so every ring would be local; $\mathfrak{m}$ must be required to be a proper ideal.
- **Correction / repair:** In a) read 'is said to be prime if $I \neq R$ and $xy \in I$ implies $x \in I$ or $y \in I$'; in c) read '(equivalently, if R has a proper ideal $\mathfrak{m}$ such that all elements of $R \smallsetminus \mathfrak{m}$ are invertible)'.

CII-M05. p. 71: unresolved reference 'Exercise ??.??'

- **Type:** cross-reference error.
- **Precise location:** printed p. 71, last paragraph, parenthesis after the definition of the strong reduction.
- **Printed text:** in our applications to the theory of algebraic or analytic schemes, the concepts of reduction and strong reduction will actually be the same; in general, these notions differ, see Exercise ??.??).

- **Issue:** Unresolved cross-reference printed literally as '??.??'. The exercises of Chapter II are § 11.1–§ 11.12 (pp. 127–128) and none of them deals with reduction versus strong reduction, so the intended target no longer exists in this version.
- **Correction / repair:** Supply the intended exercise number or delete the pointer.

CII-M06. Inconsistent citation keys [EGA 1967] and [EGA 1960-67]

- **Type:** cross-reference error.
- **Precise location:** printed p. 72, § II-1.D, first paragraph; and p. 329, introduction of Chapter VII.
- **Printed text:** referring to [Hartshorne 1977] or [EGA 1967] for a much more detailed exposition (p. 72); the corresponding algebraic notion of ampleness introduced by Grothendieck [EGA 1960-67] (p. 329).
- **Issue:** The bibliography entry is keyed [1960-67]; it is cited as [EGA 1967] on p. 72 but as [EGA 1960-67] on p. 329.
- **Correction / repair:** Use the key of the entry in both places: replace [EGA 1967] on p. 72 by [EGA 1960-67].

CII-M07. p. 75: unresolved 'Exercise ??.??' and unbalanced parentheses

- **Type:** cross-reference error.
- **Precise location:** printed p. 75, § 1.D.2, paragraph 'Ringed spaces $(X, \mathcal{O}_X)$ as above are called affine algebraic schemes ...'.
- **Printed text:** (although substantially different from the usual definition, our definition can be shown to be equivalent in this special situation; compare with [Hartshorne 1977]); see also Exercise ??.??).
- **Issue:** Unresolved cross-reference printed literally as '??.??' (no exercise of Chapter II, § 11.1–§ 11.12, deals with this comparison), and the parenthesis opened before 'although' is closed twice.
- **Correction / repair:** Supply the intended exercise number and balance the parentheses, e.g. '(... compare with [Hartshorne 1977]; see also Exercise 11.x).'.

CII-M08. § 1.D.4: '(see § 2 below)' should point to § 3 (Def. 3.8)

- **Type:** cross-reference error.
- **Precise location:** printed p. 76, § 1.D.4, last sentence before Definition 1.30.
- **Printed text:** Since $\mathfrak{a}$ has finitely many generators, the ideal sheaf $\mathcal{J}$ is locally finitely generated (see § 2 below).
- **Issue:** Locally finitely generated sheaves are defined in Definition 3.8, p. 87, i.e. in § 3 ('Coherent Sheaves'); § 2 is devoted to the local ring of germs of analytic functions and contains nothing of the sort. The pointer refers to an earlier numbering of the sections.
- **Correction / repair:** Replace '(see § 2 below)' by '(see § 3 below)' or '(see Def. 3.8)'.

CII-M09. § 1.D.5/§ 1.D.6: the graded algebra $B = k[z_0, \ldots, z_N]/J$ need not be reduced

- **Type:** missing hypothesis.
- **Precise location:** printed p. 77, end of § 1.D.5, compared with the opening hypothesis of § 1.D.6 and Definition 1.32 (p. 78).
- **Printed text:** § 1.D.5: 'This is enough to construct the desired scheme structure on $\widetilde{V}(J)$, as we see in the next subsection.' – § 1.D.6: 'Let us start with a reduced graded k-algebra $B = \bigoplus_{m\in\mathbb{N}} B_m$'; Def. 1.32: 'If $B = \bigoplus_{m\in\mathbb{N}} B_m$ is a reduced graded algebra ...'.

- **Issue:** At the end of § 1.D.5, J is the homogeneous ideal generated by an arbitrary set S of homogeneous polynomials, so $B = k[z_0, \ldots, z_N]/J$ need not be reduced; the construction of $\mathrm{Proj}(B)$ in § 1.D.6 and in Def. 1.32 is stated only for reduced graded algebras, so the two subsections do not match as printed. (Reducedness plays no role in the construction itself: the affine case § 1.D.2 explicitly allows a non reduced algebra A.)

- **Correction / repair:** Either replace J by its radical at the end of § 1.D.5 (which is what the variety structure on $\widetilde{V}(J)$ requires, by the homogeneous Nullstellensatz), or delete the word 'reduced' from the hypothesis of § 1.D.6 and of Def. 1.32.

CII-M10. § 1.D.6: Proj functoriality only gives a morphism on an open subset

- **Type:** mathematical error.

- **Precise location:** printed p. 78, paragraph after Example 1.34 ('The Proj construction is fonctorial in the following sense ...').

- **Printed text:** if we have a graded homomorphism $\Phi : B \to B'$ (i.e. an algebra homomorphism such that $\Phi(B_m) \subset B'_m$, then there are corresponding morphisms $A_s \to A'_{\Phi(s)}$, $U'_{\Phi(s)} \to U_s$, and we thus find a scheme morphism $F : \mathrm{Proj}(B') \to \mathrm{Proj}(B)$.

- **Issue:** The morphisms $U'_{\Phi(s)} \to U_s$ only define F on the open set $\bigcup_s U'_{\Phi(s)} = \mathrm{Proj}(B') \smallsetminus \widetilde{V}\big(\Phi(B_+)B'\big)$, which is in general not all of $\mathrm{Proj}(B')$. For instance the graded inclusion $\Phi : k[T_0, T_1] \hookrightarrow k[T_0, T_1, T_2]$ induces the projection $\mathbb{P}^2 \dashrightarrow \mathbb{P}^1$ from the point $[0 : 0 : 1]$, which is not defined at that point (every homogeneous polynomial of positive degree in T_0, T_1 vanishes there). A morphism defined on all of $\mathrm{Proj}(B')$ is obtained when $\Phi(B_1)$ generates B'_1 (then Lemma 1.33 applies), in particular when Φ is surjective, which is the only case used afterwards.

- **Correction / repair:** Read '... and we thus find a scheme morphism $F : \mathrm{Proj}(B') \smallsetminus \widetilde{V}(\Phi(B_+)B') \to \mathrm{Proj}(B)$; this open set is all of $\mathrm{Proj}(B')$ as soon as $\Phi(B_1)$ generates B'_1, in particular when Φ is surjective.'.

CII-M11. § 1.D.6: the image of $\mathrm{Proj}(B)$ in $\mathbb{P}^N_k$ is $\widetilde{V}(J)$

- **Type:** notation error.

- **Precise location:** printed p. 78, very last sentence of the page.

- **Printed text:** The algebra homomorphism $k[T_0, \ldots, T_N] \to B$ therefore yields a scheme embedding $\mathrm{Proj}(B) \to \mathbb{P}^N$ onto $V(J)$.

- **Issue:** Throughout § 1.D, $V(J)$ is the affine zero set of J in k^{N+1} (here the affine cone), while the projective zero set of a homogeneous ideal is denoted $\widetilde{V}(J)$ (p. 77). The subscript k of $\mathbb{P}^N_k$ is also dropped.

- **Correction / repair:** Read 'a scheme embedding $\mathrm{Proj}(B) \to \mathbb{P}^N_k$ onto $\widetilde{V}(J)$'.

CII-M12. Theorem 2.10 a): 'non zero' should be 'non zero and non invertible'

- **Type:** missing hypothesis.

- **Precise location:** printed p. 82, Theorem 2.10, item a).

- **Printed text:** (2.10) Theorem. $\mathcal{O}_n$ is a factorial ring, i.e. $\mathcal{O}_n$ is entire and: a) every non zero germ $f \in \mathcal{O}_n$ admits a factorization $f = f_1 \ldots f_N$ in irreducible elements;

- **Issue:** An invertible germ is non zero but is not a product of irreducible elements (a unit $u \neq 1$ is neither an empty product nor a product of irreducibles). The proof also uses the extra hypothesis, since it takes f to be a Weierstrass polynomial and factors it into polynomials of positive degree.

- **Correction / repair:** Read 'every non zero, non invertible germ $f \in \mathcal{O}_n$ admits a factorization ...'.

CII-M13. Theorem 2.11: the proof only yields relative primality in $\mathcal{O}_{n-1,z'}[z_n]$

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 83, proof of Theorem 2.11, last two sentences.
- **Printed text:** Then the resultant $R(z') \in \mathcal{O}_{n-1}$ of $P(z', z_n)$ and $Q(z', z_n)$ has a non zero germ at 0. Therefore the germ $R_{z'}$ at points $z' \in \mathbb{C}^{n-1}$ near 0 is also non zero.
- **Issue:** Non vanishing of the germ $R_{z'}$ says that P and Q have no common factor of positive degree in $\mathcal{O}_{n-1,z'}[z_n]$; the theorem asserts that the germs f_z, g_z are relatively prime in the local ring $\mathcal{O}_{n,z}$ at every nearby point $z = (z', z_n)$, and at a point with $z_n \neq 0$ the germs P_z, Q_z are no longer Weierstrass polynomials in z_n, so the reduction made at the beginning of the proof is not available at z.
- **Correction / repair:** Add the missing step: apply Th. 2.1 at z to write $P_z = WU$, $Q_z = W'U'$ with W, W' Weierstrass polynomials in $z_n - z_n^0$ and U, U' invertible in $\mathcal{O}_{n,z}$; a common non invertible factor of P_z and Q_z then produces a common Weierstrass factor, which by Lemma 2.8 divides P and Q in $\mathcal{O}_{n-1,z'}[z_n]$ and forces $R_{z'} = 0$, a contradiction.

CII-M14. § 3.2.2: 'finitely generated' should be 'locally finitely generated'

- **Type:** mathematical error.
- **Precise location:** printed p. 88, § 3.2.2, first paragraph.
- **Printed text:** By Def. 3.11, this means that for any open set $U \subset X$ and any sections $F_j \in \mathcal{A}(U)$, the sheaf of relations $\mathcal{R}(F_1, \dots, F_q)$ is finitely generated.
- **Issue:** Def. 3.11 b) requires $\mathcal{R}(F_1, \dots, F_q)$ to be locally finitely generated; as printed, the sentence states a strictly stronger (and false) property, exactly the one the book warns against after Th. 3.19 (p. 89): a sheaf of relations over a fixed U is in general not generated by finitely many sections on U.
- **Correction / repair:** Read 'the sheaf of relations $\mathcal{R}(F_1, \dots, F_q)$ is locally finitely generated'.

CII-M15. Proof of Theorem 3.14: R_j lies in $\mathcal{A}(\Omega')^{\oplus q}$

- **Type:** notation error.
- **Precise location:** printed p. 88, proof of Theorem 3.14, last sentence.
- **Printed text:** Then $\mathcal{R}(S_1, \dots, S_q)$ is generated over Ω' by $R_j = \sum Q_j^k P_k \in \mathcal{A}(\Omega')$, $1 \leqslant j \leqslant t$, and $\mathcal{S}$ is coherent.
- **Issue:** R_j is a relation between the q sections $S_1, \dots, S_q$, i.e. a combination of the $P_k \in \mathcal{A}(\Omega)^{\oplus q}$ with coefficients Q_j^k; it is therefore an element of $\mathcal{A}(\Omega')^{\oplus q}$.
- **Correction / repair:** Read $R_j = \sum_k Q_j^k P_k \in \mathcal{A}(\Omega')^{\oplus q}$.

CII-M16. Corollary 3.15: the word 'analytic' is out of place

- **Type:** notation error.
- **Precise location:** printed p. 88, statement of Corollary 3.15.
- **Printed text:** (3.15) Corollary. If $\mathcal{F}$ and $\mathcal{G}$ are coherent subsheaves of a coherent analytic sheaf $\mathcal{S}$, the intersection $\mathcal{F} \cap \mathcal{G}$ is a coherent sheaf.
- **Issue:** § 3.2 deals with sheaves of modules over an arbitrary sheaf of rings $\mathcal{A}$; analytic sheaves are only defined afterwards, in Def. 3.18 on p. 89. The proof given (the intersection is the kernel of $\mathcal{F} \hookrightarrow \mathcal{S} \to \mathcal{S}/\mathcal{G}$) uses nothing analytic, and the corollary is needed for coherent $\mathcal{A}$-modules in general.

- **Correction / repair:** Delete 'analytic': 'If $\mathcal{F}$ and $\mathcal{G}$ are coherent subsheaves of a coherent sheaf $\mathcal{S}$ of $\mathcal{A}$-modules ...'.

CII-M17. § 3.3: 'the noetherian property seen in Sect. 1' should be Sect. 2

- **Type:** cross-reference error.
- **Precise location:** printed p. 89, § 3.3, first paragraph, second sentence.
- **Printed text:** The Oka theorem [Oka 1950] asserting the coherence of the sheaf of holomorphic functions can be seen as a far-reaching deepening of the noetherian property seen in Sect. 1.
- **Issue:** The noetherian property of $\mathcal{O}_n$ is Theorem 2.7 of § 2 ('The Local Ring of Germs of Analytic Functions'); § 1 contains nothing of the sort. The pointer refers to an earlier numbering of the sections, as do 'Th. 1.1' and 'Lemma 1.9' on pp. 89–90.
- **Correction / repair:** Replace 'seen in Sect. 1' by 'seen in Sect. 2 (Th. 2.7)'.

CII-M18. Proof of Lemma 3.20: 'Th. 1.1' and 'Lemma 1.9' should be 'Th. 2.1' and 'Lemma 2.8'

- **Type:** cross-reference error.
- **Precise location:** printed p. 89, first sentence of the proof of Lemma 3.20; printed p. 90, first sentence of the page.
- **Printed text:** By the Weierstrass preparation Th. 1.1 and Lemma 1.9 applied at x, we can write $F_{q,x} = f'f''$ ... / As the sum is a polynomial in z_n of degree $< \mu + \mu'$, it follows from Lemma 1.9 that $f''r^q$ is a polynomial in z_n of degree $< \mu$.
- **Issue:** (1.1) is the Definition of a presheaf and (1.9) the Definition of a sheaf-space, so all three references are stale. The Weierstrass preparation theorem is Th. 2.1 (p. 80). The lemma used in both places is Lemma 2.8 (p. 82) ('if a Weierstrass polynomial divides $F \in \mathcal{O}_{n-1}[z_n]$ in $\mathcal{O}_n$, it divides it in $\mathcal{O}_{n-1}[z_n]$'): first, it turns the invertible factor produced by preparation at x into a polynomial $f'' \in \mathcal{O}_{\Delta',x'}[z_n]$; second, it shows that the quotient of the polynomial $f'f''r^q$ of degree $< \mu + \mu'$ by the Weierstrass polynomial f' of degree μ' is again a polynomial, of degree $< \mu$.
- **Correction / repair:** Read 'By the Weierstrass preparation Th. 2.1 and Lemma 2.8 applied at x' (p. 89) and 'it follows from Lemma 2.8' (p. 90).

CII-M19. (3.22): coherence of $\mathcal{F}'_k$ over $\mathcal{O}_{\Delta'}$ is not proved

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 90, proof of (3.22), last three lines ('Therefore, we can apply induction on n to the coherent $\mathcal{O}_{\Delta'}$-module $\mathcal{F}'$ ...').
- **Printed text:** Therefore, we can apply induction on n to the coherent $\mathcal{O}_{\Delta'}$-module $\mathcal{F}' = \mathcal{F} \cap \{Q \in \mathcal{O}_{\Delta'}[z_n]\,;\ \deg Q \leqslant \mu\}$ and its increasing sequence of coherent subsheaves $\mathcal{F}'_k = \mathcal{F}_k \cap \mathcal{F}'$.
- **Issue:** $\mathcal{F}$ and the $\mathcal{F}_k$ are sheaves on $V = \Delta' \times \Delta_n$, so $\mathcal{F}'$ and $\mathcal{F}'_k$ can be viewed as $\mathcal{O}_{\Delta'}$-modules only through the direct image by $\mathrm{pr} : \Delta' \times \Delta_n \to \Delta'$, which is not said; and the coherence of $\mathcal{F}'_k$ as an $\mathcal{O}_{\Delta'}$-module – which is what the induction on n needs – is asserted without proof (it is a direct image statement of the same nature as Oka's theorem, not a consequence of coherence over $\mathcal{O}_V$). Moreover the polynomials of degree $< \mu$ that generate $\mathcal{F}_{k,x}$ together with P_x are germs at a point $x = (x', x_n)$, so stationarity of $(\mathcal{F}'_k)$ over compact subsets of Δ' does not by itself give stationarity of $(\mathcal{F}_k)$ over compact subsets of V.
- **Correction / repair:** Argue with the direct image: for $k \geqslant k_0$ one has $(P) \subset \mathcal{F}_k$, and Weierstrass division gives $\mathrm{pr}_\star(\mathcal{O}_V/(P)) \simeq \mathcal{O}_{\Delta'}^{\oplus\mu}$ (Δ_n containing all roots of $P(z', \cdot)$); set $\mathcal{M}_k = \mathrm{pr}_\star(\mathcal{F}_k/(P)) \subset \mathcal{O}_{\Delta'}^{\oplus\mu}$, check that $\mathcal{M}_k$ is a coherent $\mathcal{O}_{\Delta'}$-module (by the argument of Lemma 3.20, or by the finite direct image theorem), and observe that $\mathcal{F}_k$ is recovered from $\mathcal{M}_k$, so that stationarity of $(\mathcal{M}_k)$ on compact subsets of Δ' gives that of $(\mathcal{F}_k)$ on compact subsets of V.

CII-M20. Definition 4.4: the empty germ should be excluded from irreducibility

- **Type:** missing hypothesis.
- **Precise location:** printed p. 91, Definition 4.4 and Proposition 4.5.
- **Printed text:** (4.4) Definition. A germ (A, x) is said to be irreducible if it has no decomposition $(A, x) = (A_1, x) \cup (A_2, x)$ with analytic sets $(A_j, x) \neq (A, x)$, $j = 1, 2$. – (4.5) Proposition. A germ (A, x) is irreducible if and only if $\mathcal{I}_{A,x}$ is a prime ideal of the ring $\mathcal{O}_{M,x}$.
- **Issue:** The empty germ $(\emptyset, x)$ (i.e. the germ at a point $x \notin A$) is an analytic germ and admits no decomposition at all, hence is irreducible by Def. 4.4; but $\mathcal{I}_{\emptyset,x} = \mathcal{O}_{M,x}$ is the unit ideal, which is not prime as soon as the definition (1.18) a) is read through its equivalent form ('R/I is entire'). Prop. 4.5 therefore fails for $(A, x) = (\emptyset, x)$, and the decomposition of Th. 4.7 is also empty ($N = 0$) in that case.
- **Correction / repair:** Add 'non empty' in Def. 4.4 ('A non empty germ (A, x) is said to be irreducible if ...'), or exclude $(A, x) = (\emptyset, x)$ explicitly in Prop. 4.5.

CII-M21. Proof of Proposition 4.13: the remainders R_k are indexed inconsistently

- **Type:** notation error.
- **Precise location:** printed p. 93, proof of Proposition 4.13, first three lines and formula (4.14).
- **Printed text:** A division by P_n yields $f = P_n q_n + R_n$ with a remainder $R_n \in \mathcal{O}_{n-1}[z_n]$, $\deg_{z_n} R_n < s_n$. Further divisions of the coefficients of R_n by P_{n-1}, P_{n-2} etc ... yield $R_{k+1} = P_k q_k + R_k$, $R_k \in \mathcal{O}_k[z_{k+1}, \ldots, z_n]$, where $\deg_{z_j} R_k < s_j$ for $j > k$.
- **Issue:** The first remainder is stated to lie in $\mathcal{O}_{n-1}[z_n]$, which contradicts the general rule $R_k \in \mathcal{O}_k[z_{k+1}, \ldots, z_n]$ read at $k = n$; and iterating the printed recursion $R_{k+1} = P_k q_k + R_k$ down to the last available polynomial P_{d+1} produces R_{d+1}, not the R_d used in (4.14) (it would also require a polynomial P_d, which does not exist since $\mathcal{J}_d = \{0\}$).
- **Correction / repair:** Shift the indices by one in the two divisions: 'A division by P_n yields $f = P_n q_n + R_{n-1}$ with $R_{n-1} \in \mathcal{O}_{n-1}[z_n]$, and further divisions yield $R_k = P_k q_k + R_{k-1}$, $R_{k-1} \in \mathcal{O}_{k-1}[z_k, \ldots, z_n]$, where $\deg_{z_j} R_{k-1} < s_j$ for $j \geqslant k$', which gives (4.14) as printed.

CII-M22. Proof of Proposition 4.8: 'as stated in the lemma' should read 'in the proposition'

- **Type:** cross-reference error.
- **Precise location:** printed p. 93, last line of the proof of Proposition 4.8 (top of the page).
- **Printed text:** Weierstrass polynomials $P_k \in \mathcal{J}_k$, $d + 1 \leqslant k \leqslant n - 1$, as stated in the lemma.
- **Issue:** The statement being proved is Proposition 4.8; there is no lemma in sight (the nearest one, Lemma 4.10, comes afterwards and is unrelated).
- **Correction / repair:** Read 'as stated in the proposition'.

CII-M23. Fig. II-1: the base dimension is d, not p

- **Type:** notation error.
- **Precise location:** printed p. 95, Figure II-1 (axis labels) and its caption.
- **Printed text:** $z'' \in \mathbb{C}^{n-p}$ ... $z' \in \mathbb{C}^p$ ... Fig. II-1 Ramified covering from A to $\Delta' \subset \mathbb{C}^p$.
- **Issue:** The figure illustrating Th. 4.19 uses p for the dimension of the base, whereas § 4.2 and Th. 4.19 use d throughout ($z' = (z_1, \ldots, z_d)$, $z'' = (z_{d+1}, \ldots, z_n)$, '$A_S$ is a smooth d-dimensional manifold'); the letter p is nowhere defined in this section.

- **Correction / repair:** In the axis labels and the caption, replace $\mathbb{C}^p$ by $\mathbb{C}^d$ and $\mathbb{C}^{n-p}$ by $\mathbb{C}^{n-d}$.

CII-M24. Example 4.27: 'Exercise 10.8' should be 'Exercise 11.8'

- **Type:** cross-reference error.
- **Precise location:** printed p. 99, Example 4.27, last sentence.
- **Printed text:** This means that every irreducible germ of curve can be parametrized by a bijective holomorphic map defined on a disk in $\mathbb{C}$ (see also Exercise 10.8).
- **Issue:** § 10 of Chapter II is 'Bimeromorphic maps, Modifications and Blow-ups' (statements 10.1–10.4); the exercises of the chapter are § 11.1–§ 11.12 (pp. 127–128). The intended target is § 11.8 (Puiseux expansions), whose hint refers precisely to the parametrization (4.27); the exercise section was renumbered from § 10 to § 11 without updating this pointer.
- **Correction / repair:** Replace 'Exercise 10.8' by 'Exercise 11.8'.

CII-M25. Theorem 4.31: the converse inclusion for $A_{\rm sing}$ is missing

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 100, proof of Theorem 4.31, sentence 'Therefore $A_{\rm sing}\cap\Omega$ is defined by the equations ...'.
- **Printed text:** Therefore $A_{\rm sing}\cap\Omega$ is defined by the equations $\det\big(\partial g_j/\partial z_k\big)_{j\in J,\,k\in K}=0$, $J\subset\{1,\dots,N\}$, $K\subset\{1,\dots,n\}$, $|J|=|K|=n-d$.
- **Issue:** What has been proved is that a point of $A_{\rm reg}\cap\Omega$ carries a non zero $(n-d)\times(n-d)$ minor of the Jacobian of $(g_1,\dots,g_N)$, i.e. $A_{\rm sing}\cap\Omega$ is contained in the common zero set of all these minors. The reverse inclusion, which is what makes $A_{\rm sing}\cap\Omega$ analytic, is not proved. It holds because a non zero minor at $x\in A$ makes $Z=\{g_j=0,\ j\in J\}$ a d-dimensional submanifold near x containing A; $A\cap U$ is then an analytic subset of $Z\cap U$ containing the d-dimensional manifold A_S, which is dense in $A\cap\Omega$ by Th. 4.19 and Prop. 4.24, so $A\cap U=Z\cap U$ by Remark 4.2 and $x\in A_{\rm reg}$.
- **Correction / repair:** Add the converse argument sketched above, and choose Ω as in Prop. 4.24, so that $A\cap\Omega$ has pure dimension d and A_S is dense in it.

CII-M26. Proof of Theorem 4.29: read $B_k(z'\,;T)$ instead of $B_k(z'\,;u(z''))$

- **Type:** mathematical error.
- **Precise location:** printed p. 100, proof of Theorem 4.29, display in the middle of the page (local analogue of (4.17) at the point x).
- **Printed text:** In particular $\deg P<\deg W_{u,x}$ implies $P=0$ and $\delta(z')^qW_{k,x}\big(z'\,;B_k(z'\,;u(z''))/\delta(z')-x_k\big)$ is a multiple of $W_{u,x}\big(z'\,;T-u(x'')\big)$.
- **Issue:** The displayed expression is asserted to be a multiple of $W_{u,x}(z'\,;T-u(x''))\in\mathcal{O}_{\Delta',x'}[T]$, hence it must be a polynomial in the indeterminate T; as printed it contains $u(z'')$ in place of T and is a function of z alone. The criterion just established ('every $P(z'\,;T)$ with $P(z'\,;u(z''))=0$ on (A,x) is a multiple of $W_{u,x}$') is applied precisely to $P(z'\,;T)=\delta(z')^qW_{k,x}\big(z'\,;B_k(z'\,;T)/\delta(z')-x_k\big)$, which is the local analogue at x of formula (4.17) of p. 94, $\delta(z')^qW_k\big(z'\,;B_k(z'\,;T)/\delta(z')\big)\in W_u(z'\,;T)\,\mathcal{O}_d[T]$.
- **Correction / repair:** Read $\delta(z')^qW_{k,x}\big(z'\,;B_k(z'\,;T)/\delta(z')-x_k\big)$.

CII-M27. Proof of Prop. 4.32: the coefficients c_{jk} are never defined

- **Type:** notation error.
- **Precise location:** printed p. 101, proof of Proposition 4.32, sentence after the display for z_j.
- **Printed text:** Then we find $dz_j = \sum c_{jk}(0)dg_k(0) + df_j(0)$, so that the rank of the system of differentials $\big(df_j(0)\big)_{1\leqslant j\leqslant n}$ is at least equal to $n-s$.
- **Issue:** The display immediately above reads $z_j = \sum_{1\leqslant k\leqslant s} u_{jk}(z)g_k(z) + f_j(z)$ with $u_{jk} \in \mathcal{O}_n$, $f_j \in \mathcal{I}_{A,0}$; no coefficients c_{jk} have been introduced. Differentiating at 0 and using $g_k(0) = 0$ gives $dz_j = \sum_k u_{jk}(0)\, dg_k(0) + df_j(0)$. (On p. 125 the same computation is made with constants that are legitimately called $c_{jk} \in \mathbb{C}$, because they are introduced in the preceding display.)
- **Correction / repair:** Replace $c_{jk}(0)$ by $u_{jk}(0)$.

CII-M28. Corollary 6.3: the codimension inequality is reversed

- **Type:** mathematical error.
- **Precise location:** printed p. 106, statement of Corollary 6.3.
- **Printed text:** (6.3) Corollary. If $f_1, \ldots, f_p$ are holomorphic functions on an irreducible complex space X, then all irreducible components of $f_1^{-1}(0) \cap \cdots \cap f_p^{-1}(0)$ have codimension $\geqslant p$.
- **Issue:** Iterating Th. 6.2 gives the opposite bound: every irreducible component of $f_1^{-1}(0) \cap \cdots \cap f_j^{-1}(0)$ is an irreducible complex space on which f_{j+1} either vanishes identically (codimension 0) or has a zero set of pure codimension 1, whence codimension $\leqslant p$ after p steps (Krull's principal ideal theorem). As printed the statement is false: on $X = \mathbb{C}^2$ with $f_1 = f_2 = z_1$ the intersection is $\{z_1 = 0\}$, of codimension $1 < 2$; with $f_1 = \cdots = f_p \equiv 0$ it is X, of codimension 0. The form with $\leqslant p$ is also the one used afterwards: in Def. 6.4 ('with exactly $p = \operatorname{codim} A$ functions'), in Remark 6.5, and in Exercise § 11.11 ($\operatorname{codim}_X(A \cap B) \leqslant \operatorname{codim}_X A + \operatorname{codim}_X B$).
- **Correction / repair:** Replace 'have codimension $\geqslant p$' by 'have codimension $\leqslant p$' (equivalently, 'have dimension $\geqslant \dim X - p$').

CII-M29. Prop. 6.1 and Cor. 7.8: 'Cor. 1.4.5' does not exist

- **Type:** cross-reference error.
- **Precise location:** printed p. 106, end of the proof of Proposition 6.1; and printed p. 113, first sentence of the proof of Corollary 7.8.
- **Printed text:** Since $\operatorname{codim} B \geqslant 2$, σ_k extends to Δ' by Cor. 1.4.5. (p. 106) — Proof. By Cor. 1.4.5, every holomorphic function f on $X_{\mathrm{reg}} \smallsetminus Y$ extends to X_{reg}. (p. 113).
- **Issue:** There is no Corollary 1.4.5. In the chapter.section style used elsewhere in the book ('Sect. 2.6' on p. 143, '§ 7.12' on pp. 150 and 185), '1.4.5' points to Chapter I, § 4, item (4.5), which is a displayed formula in the section on subharmonic functions (p. 31). The statement actually needed — a holomorphic function extends across a set of codimension $\geqslant 2$ — is Riemann's extension theorem, Cor. I-6.4 (p. 46). The reference is presumably stale from a version in which that corollary carried the number (4.5).
- **Correction / repair:** Replace 'Cor. 1.4.5' by 'Cor. I-6.4' in both places. (Cor. I-6.4 is stated for a closed submanifold, so it has to be applied inductively to the strata of the analytic set B on p. 106, resp. of $Y \cap X_{\mathrm{reg}}$ on p. 113.)

CII-M30. Remark 6.5: 'Exercise 10.11' should be 'Exercise § 11.11'

- **Type:** cross-reference error.
- **Precise location:** printed p. 106, Remark 6.5, closing parenthesis.
- **Printed text:** in contradiction with Th. 6.2 (also, by Exercise 10.11, we would get the inequality $\operatorname{codim}_X A \cap B \leqslant 2$).
- **Issue:** The exercises of Chapter II are numbered § 11.1–§ 11.12 (pp. 127–128); § 10 is 'Bimeromorphic maps, Modifications and Blow-ups' and contains no exercise. The statement invoked is Exercise § 11.11 ('Show that $\operatorname{codim}_X(A \cap B) \leqslant \operatorname{codim}_X A + \operatorname{codim}_X B$ if A or B is a local complete intersection'), whose hint refers back to Remark (6.5). The reference is stale from a numbering in which the exercises formed § 10.
- **Correction / repair:** Replace 'Exercise 10.11' by 'Exercise § 11.11'.

CII-M31. Proof of Th. 6.11: the pole set is where $\mathcal{J}_x \neq \mathcal{O}_{X,x}$

- **Type:** mathematical error.
- **Precise location:** printed p. 108, displayed formula at the foot of the page, proof of Theorem 6.11.
- **Printed text:** $P_f = \{x \in X \,;\, \mathcal{J}_x = \mathcal{O}_{X,x}\} = \operatorname{Supp} \mathcal{O}_X/\mathcal{J},$.
- **Issue:** Two lines above, $\mathcal{J}_x$ is defined as the ideal of germs $u \in \mathcal{O}_{X,x}$ with $uf_x \in \mathcal{O}_{X,x}$. Hence x is a pole of f, i.e. $f_x \notin \mathcal{O}_{X,x}$, if and only if $1 \notin \mathcal{J}_x$, i.e. $\mathcal{J}_x \neq \mathcal{O}_{X,x}$. As printed, the middle set is the complement of P_f; it also contradicts the third member, since $\operatorname{Supp} \mathcal{O}_X/\mathcal{J} = \{x \,;\, \mathcal{J}_x \neq \mathcal{O}_{X,x}\}$. The parallel formula for Z_f at the top of p. 109 ($Z_f = \operatorname{Supp} \mathcal{O}_X/\mathcal{J}'$) confirms the intended form.
- **Correction / repair:** Replace $\mathcal{J}_x = \mathcal{O}_{X,x}$ by $\mathcal{J}_x \neq \mathcal{O}_{X,x}$.

CII-M32. Remark 6.9: unresolved reference '(exercise 10.?)'

- **Type:** cross-reference error.
- **Precise location:** printed p. 108, last sentence of Remark 6.9, closing parenthesis.
- **Printed text:** one can show that A is not a Cartier divisor (exercise 10.?).
- **Issue:** The cross-reference is left unresolved in the printed text, and it cannot be repaired by renumbering: none of the exercises § 11.1–§ 11.12 asks the reader to show that the plane $A = \{z_1 = z_3 = 0\}$ of the quadric cone $X = \{z_1 z_2 + z_3 z_4 = 0\}$ is not a Cartier divisor. Exercise § 11.11 only gives the codimension inequality, and Remark 6.5 only shows that A is not the divisor of a single holomorphic function, which is weaker than not being a Cartier divisor.
- **Correction / repair:** Either add the missing exercise to § 11 and cite it, or delete the parenthesis.

CII-M33. Remark 6.9: '(6.5)' is a Remark, not an Example

- **Type:** cross-reference error.
- **Precise location:** printed p. 108, last sentence of Remark 6.9.
- **Printed text:** in Example 6.5, one can show that A is not a Cartier divisor.
- **Issue:** Item (6.5) on p. 106 is printed '(6.5) Remark.'.
- **Correction / repair:** Replace 'Example 6.5' by 'Remark 6.5'.

CII-M34. Proof of Th. 6.13: 'Th. 1.12' should be 'Th. 2.11'

- **Type:** cross-reference error.
- **Precise location:** printed p. 109, second sentence of the proof of Theorem 6.13.
- **Printed text:** By Th. 1.12, the germs g_x, h_x are still relatively prime for x in a neighborhood U of a.
- **Issue:** (1.12) (p. 69) is the formula $f_\star\mathcal{A}(U) = \mathcal{A}\big(f^{-1}(U)\big)$ defining the direct image of a presheaf; it is not a theorem. The result used here is Th. 2.11 (p. 83): 'If $f, g \in \mathcal{O}_n$ are relatively prime, then the germs f_z, g_z at every point $z \in \mathbb{C}^n$ near 0 are again relatively prime.'.
- **Correction / repair:** Replace 'Th. 1.12' by 'Th. 2.11'.

CII-M35. Proof of Th. 7.2: wrong index ranges in the linear system

- **Type:** mathematical error.
- **Precise location:** printed p. 111, proof of Theorem 7.2, the two displays and the sentence 'Since the determinant is $\delta(z')^{1/2}$'.
- **Printed text:** $f(z) = \sum_{0\leqslant j\leqslant q} b_j(z')u(z'')^j$ ... $\sum_{0\leqslant j\leqslant q} b_j(z')u(z''_\alpha)^j = f(z', z''_\alpha)$ for $1 \leqslant \alpha \leqslant q'$, $= 0$ for $q' < \alpha \leqslant n$. ... Since the determinant is $\delta(z')^{1/2}$.
- **Issue:** The fibre $X \cap \pi^{-1}(z')$ consists of the q points (z', z''_α), $1 \leqslant \alpha \leqslant q$, so the linear system has q equations and α cannot run up to n (n is the dimension of the ambient space $\mathbb{C}^n$). With $0 \leqslant j \leqslant q$ there are $q+1$ unknowns b_j and the matrix $\big(u(z''_\alpha)^j\big)$ is $q \times (q+1)$, hence has no determinant; the assertion that the determinant equals $\delta(z')^{1/2}$ — the Vandermonde determinant $\prod_{\alpha<\beta}\big(u(z''_\beta) - u(z''_\alpha)\big)$, whose square is the discriminant δ — requires a $q \times q$ matrix, i.e. $0 \leqslant j \leqslant q-1$. The model computation, Lemma 4.15 (p. 94), indeed writes $g = \sum_{0\leqslant j\leqslant q-1} b_j \widetilde{u}^{\,j}$.
- **Correction / repair:** Replace $\sum_{0\leqslant j\leqslant q}$ by $\sum_{0\leqslant j\leqslant q-1}$ in both displays, and 'for $q' < \alpha \leqslant n$' by 'for $q' < \alpha \leqslant q$'.

CII-M36. Proof of Th. 7.5: Supp is missing in the last display

- **Type:** notation error.
- **Precise location:** printed p. 112, displayed formula at the foot of the page, proof of Theorem 7.5.
- **Printed text:** $X_{\text{n-n}} \cap V = \{x \in V\,;\ \mathcal{F}_x \neq \mathcal{O}_{X,x}\} = \mathcal{F}/\mathcal{O}_X$.
- **Issue:** The left-hand member is a set of points, the right-hand member a sheaf. What is meant is the support of the coherent quotient sheaf $\mathcal{F}/\mathcal{O}_X$; this is exactly what makes the next sentence work ('This will imply the theorem by 5.10', Th. 5.10 being the theorem on the analyticity of the support of a coherent sheaf). Compare the analogous display on p. 108, which correctly reads $\operatorname{Supp}\mathcal{O}_X/\mathcal{J}$.
- **Correction / repair:** Replace '$= \mathcal{F}/\mathcal{O}_X$' by '$= \operatorname{Supp}\mathcal{F}/\mathcal{O}_X$'.

CII-M37. Proof of Th. 7.5: unresolved reference '(cf. Exercise 10.?)'

- **Type:** cross-reference error.
- **Precise location:** printed p. 112, third sentence of the proof of Theorem 7.5.
- **Printed text:** Since $\mathcal{I}$ is coherent, so is $\mathcal{F}$ (cf. Exercise 10.?).
- **Issue:** The reference is left unresolved. The relevant exercise exists: § 11.3 c) on p. 127 ('Suppose that $\mathcal{A}$ is a coherent sheaf of rings and that $\mathcal{F}, \mathcal{G}$ are coherent modules over $\mathcal{A}$. Then $\mathcal{H}om_{\mathcal{A}}(\mathcal{F}, \mathcal{G})$ is a coherent $\mathcal{A}$-module'), which is exactly what is needed for $\mathcal{F} = \hom_{\mathcal{O}}(\mathcal{I}, \mathcal{I})$. The '10' is stale from an earlier numbering of the exercises section.

- **Correction / repair:** Replace '(cf. Exercise 10.?)' by '(cf. Exercise § 11.3 c))'.

CII-M38. pp. 112, 113: 'Th. 6.1' should be 'Prop. 6.1'

- **Type:** cross-reference error.
- **Precise location:** printed p. 112, proof of Theorem 7.3 b); and printed p. 113, proof of Corollary 7.8.
- **Printed text:** As in the proof of Th. 6.1, f satisfies an equation (p. 112) — Since codim $X_{\rm sing} \geqslant 2$, Th. 6.1 shows that f is locally bounded near $X_{\rm sing}$. (p. 113).
- **Issue:** Item (6.1) on p. 105 is printed '(6.1) Proposition.', not a theorem.
- **Correction / repair:** Replace 'Th. 6.1' by 'Prop. 6.1' in both places.

CII-M39. Proof of Th. 7.12: generators of $\widetilde{\mathcal{O}}_{X,x}$, not of $\mathcal{O}_{X,x}$

- **Type:** mathematical error.
- **Precise location:** printed p. 115, third sentence of the proof of Theorem 7.12.
- **Printed text:** Then $\widetilde{\mathcal{O}}_{X,x}$ is isomorphic to its image $h\widetilde{\mathcal{O}}_{X,x} \subset \mathcal{O}_{X,x}$, so it is a finitely generated $\mathcal{O}_{X,x}$-module. Let $(f_1, \ldots, f_m)$ be a finite set of generators of $\mathcal{O}_{X,x}$.
- **Issue:** The module just proved to be finitely generated is $\widetilde{\mathcal{O}}_{X,x}$; $\mathcal{O}_{X,x}$ is generated by 1. The rest of the proof uses the intended meaning: the f_j are only holomorphic on $X_{\rm reg}$ and are written $f_j = g_j/h$, and one reads later $u \circ F \in \widetilde{\mathcal{O}}_{X,x} = \mathcal{O}_{X,x}[f_1, \ldots, f_m]$.
- **Correction / repair:** Replace 'a finite set of generators of $\mathcal{O}_{X,x}$' by 'a finite set of generators of the $\mathcal{O}_{X,x}$-module $\widetilde{\mathcal{O}}_{X,x}$'.

CII-M40. Proof of Th. 7.12: F is defined on $X_{\rm reg}$ but applied to X'

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 115, proof of Theorem 7.12, definition of F and of $Y' = F(X')$.
- **Printed text:** Set $X' = X \smallsetminus h^{-1}(0)$. Consider the holomorphic map $F : X_{\rm reg} \longrightarrow \Omega \times \mathbb{C}^m$, $z \longmapsto \big(z, f_1(z), \ldots, f_m(z)\big)$ and the image $Y' = F(X')$.
- **Issue:** Nothing forces the universal denominator h to vanish on $X_{\rm sing}$ (if X is normal one may take $h = 1$), so X' need not be contained in $X_{\rm reg}$ and $F(X')$ is not defined by the displayed formula. The identification used immediately afterwards, $Y' = Z \smallsetminus \{h(z) = 0\}$ with $Z = \{(z, w) \in \Omega \times \mathbb{C}^m\,;\, z \in X,\ h(z)w_j = g_j(z)\}$, is the set $\{(z, g(z)/h(z))\,;\, z \in X'\}$ and therefore does require F on all of X'.
- **Correction / repair:** Define F on $X_{\rm reg} \cup X'$ by $F(z) = \big(z, g_1(z)/h(z), \ldots, g_m(z)/h(z)\big)$ (holomorphic on X' and equal to $z \mapsto (z, f_1(z), \ldots, f_m(z))$ on $X_{\rm reg}$), or replace h by a universal denominator vanishing on $X_{\rm sing}$, so that $X' \subset X_{\rm reg}$.

CII-M41. Remark 7.14: unresolved reference 'see 9.?.1'

- **Type:** cross-reference error.
- **Precise location:** printed p. 116, last sentence of Remark 7.14.
- **Printed text:** the direct image of a coherent sheaf by a proper holomorphic map is always coherent ([Grauert 1960], see 9.?.1).
- **Issue:** The cross-reference is left unresolved. The result is the 'Direct image theorem' (5.1) of Chapter IX, § 5 ('Grauert's Direct Image Theorem', p. 429).
- **Correction / repair:** Replace 'see 9.?.1' by 'see Th. IX-5.1'.

CII-M42. Remark 7.14: sections on Y must be taken over $\pi^{-1}(U)$

- **Type:** notation error.
- **Precise location:** printed p. 116, Remark 7.14, first sentence after (7.15).
- **Printed text:** note that $\widetilde{\mathcal{O}}_Y(U) = \mathcal{O}_Y(U)$ since Y is normal.
- **Issue:** In this Remark U is an open subset of X — (7.15) reads $\pi^\star : \widetilde{\mathcal{O}}_X(U) \to \mathcal{O}_Y\big(\pi^{-1}(U)\big)$ — so $\widetilde{\mathcal{O}}_Y(U)$ and $\mathcal{O}_Y(U)$ are meaningless; sections of sheaves on Y have to be taken over $\pi^{-1}(U)$.
- **Correction / repair:** Read 'note that $\widetilde{\mathcal{O}}_Y\big(\pi^{-1}(U)\big) = \mathcal{O}_Y\big(\pi^{-1}(U)\big)$ since Y is normal' (or, more simply, '$\widetilde{\mathcal{O}}_Y = \mathcal{O}_Y$ since Y is normal').

CII-M43. Proof of Lemma 8.1 a): the point x_0 is never introduced

- **Type:** notation error.
- **Precise location:** printed p. 116, proof of Lemma 8.1 a), sentence beginning 'Let $r = \operatorname{rank} dF_{x_0}$'.
- **Printed text:** Let $r = \operatorname{rank} dF_{x_0}$ be the maximum of the rank of the differential of F on X_{reg}. Then $r \leqslant \min\{m, p\}$ and the rank of dF is constant equal to r on a neighborhood U of x_0.
- **Issue:** The only point fixed so far in the proof is x; x_0 occurs here for the first time and is never defined. It is meant to be a point of X_{reg} at which the rank of dF attains its maximum.
- **Correction / repair:** Insert its definition, e.g. 'let $x_0 \in X_{\text{reg}}$ be a point at which the rank of dF is maximal and set $r = \operatorname{rank} dF_{x_0}$'.

CII-M44. Proof of Th. 8.7, step 2: $\Omega \smallsetminus Y$ should be $\Omega \smallsetminus A$

- **Type:** notation error.
- **Precise location:** printed p. 119, proof of step 2 of Th. 8.7/8.8, sentence beginning 'By writing $Z = \bigcup Z_s$'.
- **Printed text:** By writing $Z = \bigcup_{p<s\leqslant m} Z_s$ where Z_s is an analytic subset of $\Omega \smallsetminus Y$ of pure dimension s, we may suppose that Z has pure dimension s, $p < s \leqslant m$.
- **Issue:** In step 2 the space X has been replaced by the open set $\Omega \subset \mathbb{C}^n$, the exceptional set is $A = \Omega \cap L$ and Z is an analytic subset of $\Omega \smallsetminus A$ (Th. 8.7). The letter Y is the target space of Th. 8.8 and does not occur in step 2.
- **Correction / repair:** Replace $\Omega \smallsetminus Y$ by $\Omega \smallsetminus A$.

CII-M45. Proof of Th. 8.11: Th. 6.13 does not apply on a singular normal space

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 121, second sentence of the proof of Theorem 8.11.
- **Printed text:** By Th. 6.13, the pole set P_f has pure dimension $(n-1)$, so the Remmert-Stein theorem implies that $\overline{P}_f$ is analytic in X.
- **Issue:** Th. 6.13 is stated and proved for a manifold M (its proof uses the factoriality of $\mathcal{O}_{M,x}$), and the sentence closing that proof states explicitly that it 'does not hold on an arbitrary complex space'. Here f is meromorphic on $X \smallsetminus A$ with X only assumed normal, hence possibly singular; and Th. 6.13 does fail on normal spaces (on the quadric cone $\{z_1z_2 + z_3z_4 = 0\}$, $f = z_1/z_3$ has $\dim(P_f \cap Z_f) = 0 \neq n-2$). What is true, and all that is used, is that on a normal space the pole set is empty or of pure codimension 1, and this follows from Cor. 7.8: if an irreducible component C of P_f had codimension $\geqslant 2$, then on the open set U obtained from $X \smallsetminus A$ by deleting the other components, f would be holomorphic on $U \smallsetminus C$ with $\dim(C, x) \leqslant \dim(U, x) - 2$, hence would extend holomorphically to U by Cor. 7.8, and the points of $C \cap U$ would not be poles. The same remark applies to the later sentence 'As P_g is $(n-1)$-dimensional'.

- **Correction / repair:** Replace 'By Th. 6.13' by an appeal to Cor. 7.8, e.g.: 'By Cor. 7.8 the pole set of a meromorphic function on a normal space is empty or of pure codimension 1, so P_f has pure dimension $(n-1)$'.

CII-M46. § 9.4: $\mathcal{S}_{|\Omega_\lambda}$ should be $\mathcal{S}_{|A_\lambda}$

- **Type:** notation error.
- **Precise location:** printed p. 124, § 9.4, third sentence of the paragraph after (9.10').
- **Printed text:** It is clear that $\mathcal{S}_{|\Omega_\lambda}$ is coherent if and only if $\mathcal{S}_\lambda$ is coherent as a module over $\mathcal{O}_{\Omega_\lambda}$.
- **Issue:** $\mathcal{S}$ is a sheaf on the scheme X and $\Omega_\lambda \subset \mathbb{C}^{N_\lambda}$ is not a subset of X, so $\mathcal{S}_{|\Omega_\lambda}$ is meaningless. The sentence compares $\mathcal{S}$ on the patch $A_\lambda \subset X$ with its direct image $\mathcal{S}_\lambda = (i_\lambda)_\star(\mathcal{S}_{|A_\lambda})$ on Ω_λ, exactly as in § 5.2 (p. 105).
- **Correction / repair:** Replace $\mathcal{S}_{|\Omega_\lambda}$ by $\mathcal{S}_{|A_\lambda}$.

CII-M47. (10.2): false for non-reduced schemes; a reducedness hypothesis is needed

- **Type:** missing hypothesis.
- **Precise location:** printed p. 126, statement (10.2) and the injectivity/surjectivity steps of its proof.
- **Printed text:** If $F : X \to Y$ is a modification, then the comorphism $F^\star : f^\star\mathcal{O}_Y \to \mathcal{O}_X$ induces an isomorphism $F^\star : f^\star\mathcal{M}_Y \to \mathcal{M}_X$ for the sheaves of meromorphic functions on X and Y.
- **Issue:** Stated for arbitrary analytic schemes the assertion is false. Take $Y = \big(\mathbb{C}\times\{0\},\ \mathcal{O}_{\mathbb{C}^2}/(z_2^2, z_1z_2)\big)$, a line with an embedded point at the origin, $X = Y_{\mathrm{red}} = \mathbb{C}$, and $F : X \to Y$ the canonical morphism. Then F is proper and, with $B = \{0\}$, $F : X \smallsetminus F^{-1}(B) \to Y \smallsetminus B$ is an isomorphism (for $z_1 \neq 0$, z_1 is a unit, so $z_2 \in (z_2^2, z_1z_2)$); thus F is a modification in the sense of (10.1). In $\mathcal{O}_{Y,0} = \mathbb{C}\{z_1,z_2\}/(z_2^2, z_1z_2)$ one has $z_2 \cdot \mathfrak{m}_{Y,0} = 0$, so every non-unit is a zero divisor and $\mathcal{M}_{Y,0} = \mathcal{O}_{Y,0}$, whereas $\mathcal{M}_{X,0} = \mathbb{C}\{z_1\}[1/z_1]$. Hence $F_0^\star$ is neither injective ($z_2 \neq 0$ in $\mathcal{O}_{Y,0}$ but $z_2 \circ F = 0$) nor surjective ($1/z_1$ is not attained). The step that breaks down is precisely '$F^\star u = 0$ implies $g \circ F = 0$, which implies $g = 0$ on $\Omega \smallsetminus B$ and thus $g = 0$ on Ω because B is nowhere dense': a section of $\mathcal{O}_Y$ vanishing outside a nowhere dense set need not vanish when $\mathcal{O}_Y$ has nilpotents.
- **Correction / repair:** Add the hypothesis that X and Y are reduced (i.e. complex spaces), or at least that $\mathcal{O}_Y$ has no non-zero section supported on a nowhere dense subset.

CII-M48. Proof of (10.2): 'By Th. 7.2' should be 'By Remark 4.2 and Def. 7.1'

- **Type:** cross-reference error.
- **Precise location:** printed p. 126, penultimate sentence of the proof of (10.2).
- **Printed text:** Then $v = u \circ F^{-1}$ defines a bounded holomorphic function on $\Omega \smallsetminus B$. By Th. 7.2, it follows that v is weakly holomorphic for the reduced structure of Y.
- **Issue:** Th. 7.2 asserts the existence of universal denominators (and hence $\widetilde{\mathcal{O}}_X \subset \mathcal{M}_X$); it says nothing about a bounded holomorphic function on the complement of an analytic set. What is needed is that v, holomorphic and bounded on $\Omega \smallsetminus B$, extends holomorphically across $B \cap Y_{\mathrm{reg}}$ — that is Remark 4.2 (p. 91) — and is therefore weakly holomorphic in the sense of Def. 7.1. (Th. 7.2 would be the reference for the next step, 'weakly holomorphic $\Rightarrow$ meromorphic', but on a possibly non-reduced Y that step is exactly what Lemma 10.3 is invoked for.)
- **Correction / repair:** Replace 'By Th. 7.2' by 'By Remark 4.2 and Def. 7.1'.

CII-M49. Lemma 10.3: the letters X and Y are interchanged

- **Type:** notation error.
- **Precise location:** printed p. 126, statement and proof of Lemma 10.3.
- **Printed text:** (10.3) Lemma. If $(X, \mathcal{O}_X)$ is an analytic scheme, then every holomorphic function v in the complement of a nowhere dense analytic subset $B \subset Y$ which is weakly holomorphic on X_{red} is meromorphic on X. Proof. It is enough to argue with the germ of v at any point $x \in Y$, and thus we may suppose that $(Y, \mathcal{O}_Y) = (A, \mathcal{O}_\Omega/\mathcal{I})$ is embedded in $\mathbb{C}^N$.
- **Issue:** Only one analytic scheme is involved. The statement introduces $(X, \mathcal{O}_X)$ but places B in Y, and the whole proof is written with Y ('$x \in Y$', '$(Y, \mathcal{O}_Y) = (A, \mathcal{O}_\Omega/\mathcal{I})$', '$v = g/h$ in Y_{red}'), while the conclusion is about X.
- **Correction / repair:** Use one letter throughout: in the statement replace '$B \subset Y$' by '$B \subset X$', and in the proof replace Y by X ('any point $x \in X$', '$(X, \mathcal{O}_X) = (A, \mathcal{O}_\Omega/\mathcal{I})$', '$v = g/h$ in X_{red}'). In the application, in the proof of (10.2), the scheme in question is the target Y.

CII-M50. Definition 10.1: $F^{-1}(B)$ must be required to be nowhere dense in X

- **Type:** missing hypothesis.
- **Precise location:** printed p. 126, Definition 10.1.
- **Printed text:** An analytic morphism $F : X \to Y$ is said to be a modification if F is proper and if there exists a nowhere dense closed analytic subset $B \subset Y$ such that the restriction $F : X \setminus F^{-1}(B) \to Y \setminus B$ is an isomorphism.
- **Issue:** Nothing prevents $F^{-1}(B)$ from having interior points, and (10.2) then fails. Take $X = \mathbb{C} \sqcup \{p\}$ (a line and an isolated point), $Y = \mathbb{C}$, $B = \{0\}$, $F = \mathrm{id}$ on $\mathbb{C}$ and $F(p) = 0$: F is proper and $F : X \setminus F^{-1}(B) = \mathbb{C}^\star \to \mathbb{C}^\star = Y \setminus B$ is an isomorphism, so F is a modification in the sense of (10.1); but $\{p\}$ is open in X, $\mathcal{O}_{X,p} = \mathcal{M}_{X,p} = \mathbb{C}$, and $F^\star$ is not even defined on the germs $g/h \in \mathcal{M}_{Y,0}$ with $h(0) = 0$. The proof of (10.2) uses the missing condition when it asserts that '$h \circ F$ cannot vanish identically on any open subset W of $F^{-1}(\Omega)$': its parenthetical justification produces no contradiction when $W \subset F^{-1}(B)$.
- **Correction / repair:** Add to Def. 10.1 the requirement that $F^{-1}(B)$ be nowhere dense in X (equivalently, that $X \setminus F^{-1}(B)$ be dense in X).

CII-M51. (10.2): the comorphism is defined on $f^{-1}\mathcal{O}_Y$, not on $f^\star\mathcal{O}_Y$

- **Type:** notation error.
- **Precise location:** printed p. 126, statement of (10.2).
- **Printed text:** the comorphism $F^\star : f^\star\mathcal{O}_Y \to \mathcal{O}_X$ induces an isomorphism $F^\star : f^\star\mathcal{M}_Y \to \mathcal{M}_X$.
- **Issue:** By Def. 9.1 (p. 122) the comorphism of a morphism of ringed spaces is $F^\star : f^{-1}\mathcal{R}_Y \to \mathcal{R}_X$, defined on the sheaf-theoretic inverse image. With the analytic inverse image of (9.12) one has $F^\star\mathcal{O}_Y = \mathcal{O}_X \otimes_{f^{-1}\mathcal{O}_Y} f^{-1}\mathcal{O}_Y = \mathcal{O}_X$, so '$F^\star : f^\star\mathcal{O}_Y \to \mathcal{O}_X$' would be the identity and would carry no information; moreover $\mathcal{M}_Y$ is not coherent, so (9.12) does not apply to it either.
- **Correction / repair:** Replace $f^\star\mathcal{O}_Y$ and $f^\star\mathcal{M}_Y$ by $f^{-1}\mathcal{O}_Y$ and $f^{-1}\mathcal{M}_Y$.

CII-M52. Exercise § 11.4: '(2.17)' should be '(1.17)'

- **Type:** cross-reference error.
- **Precise location:** printed p. 127, Exercise § 11.4, hint.
- **Printed text:** Hint: use the natural morphisms (2.17).

- **Issue:** § 2 of Chapter II ends at (2.11) (p. 83), so (2.17) does not exist. The natural morphisms of the adjunction $f^{-1} \dashv f_\star$, namely $f^{-1}f_\star\mathcal{A} \to \mathcal{A}$ and $\mathcal{B} \to f_\star f^{-1}\mathcal{B}$, are (1.17) (p. 69), which is exactly what is needed to construct the isomorphism $\hom_X(f^{-1}\mathcal{B}, \mathcal{A}) = \hom_Y(\mathcal{B}, f_\star\mathcal{A})$.

- **Correction / repair:** Replace '(2.17)' by '(1.17)'.

CII-M53. Exercise § 11.7 a): the projection onto $\mathbb{C}^p$ is $z \mapsto z'$

- **Type:** mathematical error.

- **Precise location:** printed p. 127, Exercise § 11.7 a).

- **Printed text:** there are coordinates $z' = (z_1, \ldots, z_p)$, $z'' = (z_{p+1}, \ldots, z_n)$ such that $\pi : A \to \mathbb{C}^p$, $z \mapsto z''$ is proper with finite fibers, and such that A is entirely contained in a cone $|z''| \leqslant C(|z'| + 1)$.

- **Issue:** $z'' = (z_{p+1}, \ldots, z_n)$ has $n - p$ components and lies in $\mathbb{C}^{n-p}$, so $z \mapsto z''$ is not a map to $\mathbb{C}^p$. The cone condition $|z''| \leqslant C(|z'| + 1)$ is exactly what makes $z \mapsto z'$ proper on A, and part b) ('the projection $\pi : A \to \mathbb{C}^p$ is finite') and the model result Cor. 4.11 both use the projection onto the first p coordinates.

- **Correction / repair:** Replace '$z \mapsto z''$' by '$z \mapsto z'$'.

CII-M54. Exercise § 11.9: $\overline{E}$ need not be analytic in $\Omega \times \mathbb{C}$

- **Type:** mathematical error.

- **Precise location:** printed p. 128, Exercise § 11.9 a) and b).

- **Printed text:** a) Let E be the set of points $(z, t) \in \Omega \times \mathbb{C}^\star$ such that $z \in t^{-1}A$. Show that the closure $\overline{E}$ in $\Omega \times \mathbb{C}$ is analytic. … b) Show that $C(A, 0)$ is a conic set and that $\overline{E} \cap (\Omega \times \{0\}) = C(A, 0) \times \{0\}$.

- **Issue:** (i) The equations f_j are given on $\Omega = B(0, r)$ only, so $f_j(tz)$ makes sense only on $W = \{(z, t) \in \Omega \times \mathbb{C}\,;\, tz \in \Omega\}$, and Cor. 5.4 gives the analyticity of $\overline{E}$ in W, not in $\Omega \times \mathbb{C}$. As stated, a) is false: take $n = 2$, $\Omega = B(0, 1)$, $A = \Omega \cap \{z_2 = z_1^2\}$, so that $E = \{(z, t)\,;\, t \neq 0,\ |tz| < 1,\ z_2 = tz_1^2\}$. The set $S = \{(z, t) \in \Omega \times \mathbb{C}\,;\, z_2 = tz_1^2\}$ is a connected smooth, hence irreducible, analytic subset of $\Omega \times \mathbb{C}$ containing $\overline{E}$; $\overline{E}$ contains a non-empty open subset of S (a neighbourhood in S of $z = (0.1, 0.01)$, $t = 1$), yet $\overline{E} \neq S$, because $z = (0.09, 0.081)$, $t = 10$ lies in S with $|tz| > 1$ together with a whole S-neighbourhood, hence not in $\overline{E}$. A proper closed subset of an irreducible analytic set having interior points is not analytic. (ii) In b), $C(A, 0)$ is an unbounded cone in $\mathbb{C}^n$ while $\overline{E} \cap (\Omega \times \{0\}) \subset \Omega \times \{0\}$, so the stated identity cannot hold as printed.

- **Correction / repair:** In a), restrict to $0 < |t| < 1$ (so that $tz \in \Omega$ automatically) and take the closure $\overline{E}$ in $\Omega \times D(0, 1)$; in b), write $\overline{E} \cap (\Omega \times \{0\}) = \big(C(A, 0) \cap \Omega\big) \times \{0\}$.

CII-M55. Exercise § 11.12: the hint is garbled and its reduction is impossible

- **Type:** mathematical error.

- **Precise location:** printed p. 128, Exercise § 11.12, last sentence of the hint.

- **Printed text:** By means of suitable substitutions, reduce the proof to the case when $f = f_k$ is homogeneous with all non zero monomials satisfying $\alpha \leqslant 2$, $\beta \leqslant 1$, $\gamma \leqslant 1$; then check that there is at most one such monomial in each weighted degree $\leqslant 15$ the product of a power of x by a homogeneous polynomial of weighted degree $\leqslant 8$.

- **Issue:** Two defects. (i) The sentence runs two clauses together after '$\leqslant 15$' and is unreadable as printed. (ii) The proposed reduction cannot be carried out: the monomials $x^\alpha y^\beta z^\gamma$ with $\alpha \leqslant 2$, $\beta \leqslant 1$, $\gamma \leqslant 1$ are twelve in number, of weighted degrees $0, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15$, whereas $\mathbb{C}[x, y, z]/\mathcal{I}_\Gamma \simeq \mathbb{C}[t^3, t^4, t^5]$ is infinite dimensional. Concretely, x^6 has weighted degree 18 and $x^6(t^3, t^4, t^5) = t^{18} \neq 0$, so $x^6 \notin \mathcal{I}_{\Gamma,0}$; as $\mathcal{I}_{\Gamma,0}$ is weighted homogeneous, x^6 cannot be congruent modulo $\mathcal{I}_{\Gamma,0}$ to a combination of monomials of weighted degree $\leqslant 15$. (The rewriting $x^3 \to yz$, $y^2 \to xz$, $z^2 \to x^2y$ does not terminate: $x^6 \to x^3yz \to y^2z^2 \to x^3yz$.)

- **Correction / repair:** Replace the last sentence of the hint by: 'Using $y^2 \equiv xz$, $z^2 \equiv x^2y$ and $yz \equiv x^3$ modulo the ideal generated by the three polynomials, reduce to the case where every monomial of f_k is of the form x^a, $x^a y$ or $x^a z$, of weighted degrees $3a$, $3a+4$, $3a+5$ respectively; check that each weighted degree contains at most one such monomial, and conclude by means of $f_k(t^3,t^4,t^5) = f_k(1,1,1)\,t^k$.'.

CII-M56. Exercise § 11.11: 'the equality' should be 'the inequality'

- **Type:** mathematical error.
- **Precise location:** printed p. 128, Exercise § 11.11, second half of the statement.
- **Printed text:** Show that $\mathrm{codim}_X(A\cap B) \leqslant \mathrm{codim}_X A + \mathrm{codim}_X B$ if A or B is a local complete intersection, but that the equality does not necessarily hold in general. Hint: see Remark (6.5).
- **Issue:** What the hint provides is a counterexample to the inequality when neither A nor B is a local complete intersection: in Remark 6.5 one has $X = \{z_1z_2 + z_3z_4 = 0\} \subset \mathbb{C}^4$ of dimension 3, $A = \{z_1 = z_3 = 0\}$, $B = \{z_2 = z_4 = 0\}$, so $\mathrm{codim}_X A = \mathrm{codim}_X B = 1$ while $A \cap B = \{0\}$ has $\mathrm{codim}_X = 3 > 2$. Failure of equality, by contrast, is trivial (take $A = B$ a hypersurface, which is a complete intersection) and would make the reference to Remark (6.5) pointless.
- **Correction / repair:** Replace 'but that the equality does not necessarily hold in general' by 'but that the inequality does not necessarily hold in general, i.e. without that hypothesis'.

CII-M57. Exercise § 11.9 a): the letter A denotes two different sets

- **Type:** notation error.
- **Precise location:** printed p. 128, Exercise § 11.9 a), hint.
- **Printed text:** Hint: observe that $E = A \smallsetminus (\Omega \times \{0\})$ where $A = \{f_j(tz) = 0\}$ and apply Cor. 5.4.
- **Issue:** A is the analytic germ $(A,0) \subset \mathbb{C}^n$ of the exercise, used in the same hint through $E = \{(z,t)\,;\, z \in t^{-1}A\}$; the auxiliary set $\{(z,t)\,;\, f_j(tz) = 0\}$ lives in $\Omega \times \mathbb{C}$. With the same letter for both, the identity $E = A \smallsetminus (\Omega \times \{0\})$ is unreadable (the two sets do not even lie in the same space).
- **Correction / repair:** Use a different letter: 'observe that $E = \widetilde{A} \smallsetminus (\Omega \times \{0\})$ where $\widetilde{A} = \{(z,t)\,;\, f_j(tz) = 0,\ 1 \leqslant j \leqslant N\}$'.

Typographical and editorial corrections

- **CII-T01.** printed p. 66, Example 1.3, second sentence. *Printed:* Similarly if X is differentiable (resp. complex analytic) manifold, there are well defined presheaves of rings $\mathcal{C}^k$ of functions of class $\mathcal{C}^k$ (resp. $\mathcal{O}$) of holomorphic functions) on X. *Issue:* The article is missing before 'differentiable', and the parenthesis is closed one clause too early: as printed, ') of holomorphic functions)' is left dangling, whereas the intended parenthetical is '(resp. $\mathcal{O}$ of holomorphic functions)'. *Correction:* Read: 'Similarly if X is a differentiable (resp. complex analytic) manifold, there are well defined presheaves of rings $\mathcal{C}^k$ of functions of class $\mathcal{C}^k$ (resp. $\mathcal{O}$ of holomorphic functions) on X.'.
- **CII-T02.** printed p. 67, Definition 1.8, sentence after the displayed inductive limit. *Printed:* More explicitely, $\widetilde{\mathcal{A}}_x$ is the set of equivalence classes of elements in the disjoint union ... *Issue:* Misspelling. *Correction:* Replace 'explicitely' by 'explicitly'.
- **CII-T03.** printed p. 69, sentence just after (1.15). *Printed:* and the sections $\sigma \in f^{-1}\mathcal{B}(U)$ can be considered as continuous mappings $s : U \to \mathcal{B}$ such that $\pi \circ \sigma = f$. *Issue:* One and the same object is denoted σ and then s in the same sentence; s is never related to σ. *Correction:* Use one letter throughout, e.g. 'the sections $\sigma \in f^{-1}\mathcal{B}(U)$ can be considered as continuous mappings $\sigma : U \to \mathcal{B}$ such that $\pi \circ \sigma = f_{\restriction U}$'.
- **CII-T04.** printed p. 70, (1.18) e), definition of the radical. *Printed:* The radical $\sqrt{I}$ of an ideal I is the set of all elements $x \in R$ such that some power x^m, $m \in \mathbb{N}^\star$, lies in in I. *Issue:* Doubled word. *Correction:* Read 'lies in I'.

- **CII-T05.** printed p. 71, last line; p. 73, after the comorphism $f^\star$ and again before (1.27); p. 74, before (1.27); p. 78, paragraph after Example 1.34. *Printed:* It is important to observe that reduction (resp. strong reduction) is a fonctorial process ... we have defined a contravariant fonctor ... The Proj construction is fonctorial in the following sense. *Issue:* The French spelling 'fonctor'/'fonctorial' is used instead of the English 'functor'/'functorial' (five occurrences: p. 71 l. -2, p. 73 twice, p. 74, p. 78). *Correction:* Replace 'fonctor' by 'functor' and 'fonctorial' by 'functorial' in all five places.

- **CII-T06.** printed p. 72, § 1.D, first paragraph ('Beginners are invited to skip this section ...'). *Printed:* Beginners are invited to skip this section and proceed directly to the theory of complex analytic sheaves in §,2. *Issue:* A stray comma is printed between the section sign and the number (a source macro '§,2' meant as a thin space). *Correction:* Read 'in § 2'.

- **CII-T07.** printed p. 72, § 1.D, first sentence. *Printed:* referring to [Hartshorne 1977] or [EGA 1967] for a much more detailed exposition. *Issue:* The bibliography entry (p. 451) is 'EGA, Grothendieck, G., Dieudonne, J.A. [1960-67]', and the same work is cited as [EGA 1960-67] on p. 329; the key [EGA 1967] matches no entry. *Correction:* Replace [EGA 1967] by [EGA 1960-67].

- **CII-T08.** printed p. 73, sentence defining a morphism of affine algebraic sets, just before (1.26). *Printed:* is a map $f : Y \to X$ which is the restriction of a polynomial map $k^{N'} to k^N$. *Issue:* The word 'to' has been typeset in math mode, without spaces, between the two spaces $k^{N'}$ and k^N. *Correction:* Read 'the restriction of a polynomial map $k^{N'} \to k^N$'.

- **CII-T09.** printed p. 73, sentence following the definition of a morphism of affine algebraic sets. *Printed:* We then get a k-algebra homomomorphism. *Issue:* Misspelling ('mo' typed twice). *Correction:* Read 'homomorphism'.

- **CII-T10.** printed p. 75, § 1.D.2, last sentence of the paragraph ending with '$\Gamma(D(s), \mathcal{O}_X) = A[1/s]$'. *Printed:* Otherwise, the reduction $X_{\rm red}$ can obtained from the reduced algebra $A_{\rm red} = A/N(A)$. *Issue:* Missing verb 'be'. *Correction:* Read 'can be obtained'.

- **CII-T11.** printed p. 75, first display of the page (identification of $D(s)$ with $\mathrm{Spm}(A[1/s])$). *Printed:* $V(J_s) = \{(z, w) \in V(J) \times k\ ;\ s(z)\, w = 1\} \simeq V(I) \smallsetminus s^{-1}(0)$. *Issue:* The ideals in play are J (with $A \simeq k[T_1, \ldots, T_N]/J$) and $J_s = J[T_{N+1}] + (sT_{N+1} - 1)$; no ideal I has been introduced at this point, and the right-hand side is the affine algebraic set $V(J)$ with the hypersurface $s = 0$ removed. *Correction:* Replace $V(I) \smallsetminus s^{-1}(0)$ by $V(J) \smallsetminus s^{-1}(0)$.

- **CII-T12.** printed p. 76, last display of the page (definition of the affine charts U_α). *Printed:* $U_\alpha = \big\{[z_0 : z_1 : \cdots : z_N] \in \mathbb{P}^N_k\ \ z_\alpha \neq 0\big\}$. *Issue:* The separator ';' between the element and the condition is missing; the same notation is written with ';' everywhere else (e.g. $\widetilde{V}(S)$ on p. 77, $V(S)$ on p. 72). *Correction:* Read $U_\alpha = \big\{[z_0 : z_1 : \cdots : z_N] \in \mathbb{P}^N_k\ ;\ z_\alpha \neq 0\big\}$.

- **CII-T13.** printed p. 76, Definition (1.30) (subschemes); printed p. 77, Definition (1.30) (projective schemes). *Printed:* (1.30) Definition. If $(X, \mathcal{O}_X)$ is an algebraic scheme, a (closed) subscheme is ... [p. 76] / (1.30) Definition. An algebraic scheme or variety $(X, \mathcal{O}_X)$ is said to be projective if ... [p. 77]. *Issue:* Two distinct definitions carry the label (1.30); the counter then resumes at (1.31) on p. 77, so this is a genuine duplication and not a global shift. Any reference to 'Def. 1.30' would be ambiguous (none occurs in the book). *Correction:* Renumber the second Definition (projective schemes, p. 77), e.g. as (1.30') or by shifting (1.31)–(1.34).

- **CII-T14.** printed p. 76, § 1.D.4, third sentence. *Printed:* Since the structural sheaf $\mathcal{O}_Y$ is obtained by taken localizations $A/\mathfrak{a}[1/s]$, ... *Issue:* Wrong verb form. *Correction:* Read 'by taking localizations'.

- **CII-T15.** printed p. 76, § 1.D.5, sentence introducing the $(N + 1)$ affine charts. *Printed:* It is clear that $\mathbb{P}^k_N$ can be covered by the $(N+1)$ affine charts U_α, $0 \leqslant \alpha \leqslant N$, such that. *Issue:* Superscript and subscript are interchanged: the projective N-space over k is denoted $\mathbb{P}^N_k$ two lines above and on all of pp. 76–78. *Correction:* Replace $\mathbb{P}^k_N$ by $\mathbb{P}^N_k$.

- **CII-T16.** printed p. 77, § 1.D.5, sentence following the display $B = k[z_0, \ldots, z_N]/J = \bigoplus B_m$. *Printed:* such that B is generated by B_1 and B_m is a finite dimensional vector space over k for each k. *Issue:* Wrong index letter: the graded pieces are B_m, and k denotes the base field, which occurs in the same sentence. *Correction:* Replace 'for each k' by 'for each m'.

- **CII-T17.** printed p. 78, sentence introducing (1.33). *Printed:* The following proposition shows that only finitely many open charts are actually needed to describe X (as required in Def. 1.29 a)). (1.33) Lemma. *Issue:* The statement announced as a 'proposition' is labelled '(1.33) Lemma.'. *Correction:* Read 'The following lemma shows ...' (or relabel (1.33) as a Proposition).

- **CII-T18.** printed p. 78, second paragraph after Example 1.34. *Printed:* In particular, we may alway assume that $B_0 = k\,1_B$. *Issue:* Misspelling. *Correction:* Read 'we may always assume'.

- **CII-T19.** printed p. 78, last paragraph, sentence beginning 'By selecting finitely many generators $g_0, \ldots, g_N$ in B_1'. *Printed:* we then find a surjective graded homomorphism $k[T_0, \ldots, T_N] \to B$, thus $B \simeq k[T_0, \ldots, T_N]/J$ for some graded ideal $J \subset B$. *Issue:* J is the kernel of the surjection $k[T_0, \ldots, T_N] \to B$, hence an ideal of the polynomial ring; with $J \subset B$ the quotient $k[T_0, \ldots, T_N]/J$ is meaningless. *Correction:* Replace 'for some graded ideal $J \subset B$' by 'for some graded ideal $J \subset k[T_0, \ldots, T_N]$'.

- **CII-T20.** printed p. 78, paragraph after Example 1.34, parenthesis defining a graded homomorphism. *Printed:* if we have a graded homomorphism $\Phi : B \to B'$ (i.e. an algebra homomorphism such that $\Phi(B_m) \subset B'_m$, then there are corresponding morphisms. *Issue:* The parenthesis opened at '(i.e. an algebra homomorphism' is never closed. *Correction:* Insert the closing parenthesis after '$\Phi(B_m) \subset B'_m$'.

- **CII-T21.** printed p. 83, first line (item b') in the proof of Theorem 2.10). *Printed:* b'If g is an irreducible element that divides a product $f_1 f_2$, then g divides either f_1 or f_2. *Issue:* The closing parenthesis and the space of the label 'b')' are missing, so the label collides with the first word of the statement. *Correction:* Print 'b') If g is an irreducible element that divides a product $f_1 f_2$, ...'.

- **CII-T22.** printed p. 83, § 3.1, first two sentences of the section. *Printed:* Section 9 will greatly develope this philosophy. Before introducing the more general notion of a coherent sheaf, we discuss the notion of locally free sheaves over a sheaf a ring. *Issue:* 'develope' is a misspelling and 'over a sheaf a ring' should read 'over a sheaf of rings'. (Incidentally, the opening sentence has no antecedent: 'this philosophy' refers to nothing at the head of § 3.1, which follows the proof of Th. 2.11.) *Correction:* Replace 'develope' by 'develop' and 'over a sheaf a ring' by 'over a sheaf of rings'.

- **CII-T23.** printed p. 83, Definition 3.1, first line. *Printed:* Let $\mathcal{A}$ be a sheaf of rings on a topological space X and let $\mathcal{S}$ a sheaf of modules over $\mathcal{A}$ (or briefly a $\mathcal{A}$-module). *Issue:* The verb is missing after the second 'let'. *Correction:* Read 'and let $\mathcal{S}$ be a sheaf of modules over $\mathcal{A}$'.

- **CII-T24.** printed p. 84, paragraph beginning 'The notion of locally free sheaf is closely related ...'. *Printed:* we assume that the sheaf of rings $\mathcal{A}$ is a subsheaf of the sheaf $\mathcal{C}_{\mathbb{K}}$ of continous functions on X. *Issue:* Misspelling. *Correction:* Replace 'continous' by 'continuous'.

- **CII-T25.** printed p. 85, Example 3.5, second sentence. *Printed:* if $\tau_\alpha : U_\alpha \to \mathbb{R}^n$ is a collection of coordinate charts on X, then $\theta_\alpha = \pi \times d\tau_\alpha : T_{X\restriction U_\alpha} \to U_\alpha \times \mathbb{R}^m$ define trivializations of T_X. *Issue:* The dimension of the manifold is called n in the charts and m in the trivializations; m is never defined, and the fibres of T_X have the same dimension as the charts. *Correction:* Replace $U_\alpha \times \mathbb{R}^m$ by $U_\alpha \times \mathbb{R}^n$.

- **CII-T26.** printed p. 88, sentence introducing (3.17). *Printed:* Let $\mathcal{S}$ be a coherent sheaf of modules over a coherent sheaf of ring $\mathcal{A}$. *Issue:* Missing plural. *Correction:* Read 'over a coherent sheaf of rings $\mathcal{A}$'.

- **CII-T27.** printed p. 88, proof of Theorem 3.14, third paragraph, sentence 'Then $(F_1, \ldots)$ generate $\mathcal{S}_{\restriction\Omega'}$'. *Printed:* Then $(F_1, \ldots, F_q, \widetilde{G}_1, \ldots, \widetilde{G}_q)$ generate $\mathcal{S}_{\restriction\Omega'}$, so $\mathcal{S}$ is locally finitely generated. *Issue:* Two lines above, $\mathcal{F}$ is generated by $F_1, \ldots, F_p$ and $\mathcal{G}$ by $G_1, \ldots, G_q$; writing $F_1, \ldots, F_q$ silently replaces p by q, and for $q < p$ the listed sections do not generate $\mathcal{F}$. *Correction:* Read $(F_1, \ldots, F_p, \widetilde{G}_1, \ldots, \widetilde{G}_q)$.

- **CII-T28.** printed p. 89, formula (3.21) in the proof of Lemma 3.20. *Printed:* $(g^1, \dots, g^q) = \sum_{1\leqslant j\leqslant q} t^j(0, \dots, F_q, \dots, 0, -F_j)_x + (r^1, \dots, r^q)$. *Correction:* Replace $\sum_{1\leqslant j\leqslant q}$ by $\sum_{1\leqslant j\leqslant q-1}$ in (3.21).

- **CII-T29.** printed p. 90, 'Proof of Theorem 3.19 (end)', sentence beginning 'By the induction hypothesis, $\mathcal{O}_{\Delta'}$ is coherent'. *Printed:* the corresponding modules of relations are generated over $\mathcal{O}_{\Delta',x'}$, for x' in a neighborhood Ω' of 0, by finitely many $(q\times\mu)$-tuples $U_1, \dots, U_N \in \mathcal{O}(\Omega')^{q\mu}$. *Correction:* Read '$(q\times(\mu+1))$-tuples $U_1, \dots, U_N \in \mathcal{O}(\Omega')^{q(\mu+1)}$'.

- **CII-T30.** printed p. 90, heading 'Proof of Theorem 3.19 (end)'; printed p. 96, heading 'Proof of Theorem 4.19 (end)'. *Printed:* Proof of Theorem 3.19 (end).. / Proof of Theorem 4.19 (end).. *Issue:* Two full stops are printed after '(end)' in both headings. *Correction:* Print 'Proof of Theorem 3.19 (end).' and 'Proof of Theorem 4.19 (end).'.

- **CII-T31.** printed p. 91, § 4.1, first paragraph; printed p. 99, statement of Theorem 4.29. *Printed:* we refer to H. Cartan's seminar [Cartan 1950], to the books of [Gunning-Rossi 1965], ... / (4.29) Theorem ([Cartan 1950]). *Correction:* Either cite [Cartan 1954] in both places, or add Cartan's 1950 paper to the bibliography under the key [Cartan 1950].

- **CII-T32.** printed p. 91, Definition 4.1, first sentence. *Printed:* there exist a neighborhood U of x_0 and holomorphic functions $g_1, \dots, g_n$ in $\mathcal{O}(U)$ such that $A \cap U = \{z \in U\,;\, g_1(z) = \cdots = g_N(z) = 0\}$. Then $g_1, \dots, g_N$ are said to be (local) equations of A in U. *Issue:* The number of equations is called n when the functions are introduced and N immediately afterwards; in this chapter n denotes the dimension of the ambient manifold (Def. 3.18, § 4.2), so the two letters are not interchangeable. *Correction:* Read 'holomorphic functions $g_1, \dots, g_N$ in $\mathcal{O}(U)$'.

- **CII-T33.** printed p. 91, paragraph before (4.3'), sentence beginning 'It is easy to check that the germ'. *Printed:* It is easy to check that the germ $\big(V(cJ), x\big)$ does not depend on the choice of generators. *Issue:* The ideal is denoted $\mathcal{J}$ everywhere else on the page ($\mathcal{J} = (g_1, \dots, g_N)$, $V(\mathcal{J})$, (4.3')); here the source macro has not been expanded and 'cJ' is printed literally. *Correction:* Replace $\big(V(cJ), x\big)$ by $\big(V(\mathcal{J}), x\big)$.

- **CII-T34.** printed p. 91, paragraph beginning 'We focus now our attention on local properties'. *Printed:* We most often consider the case when $A \subset M$ is a analytic set in a neighborhood U of x. *Issue:* Wrong article. *Correction:* Read 'is an analytic set'.

- **CII-T35.** printed p. 92, § 4.2, first paragraph, second sentence. *Printed:* By the above decomposition theorem, we may restrict ourselves to the case of irreducible germs Let $\mathcal{J}$ be a prime ideal of $\mathcal{O}_n = \mathcal{O}_{\mathbb{C}^n,0}$ and let $A = V(\mathcal{J})$ be its zero variety. *Issue:* The full stop between the two sentences is missing. *Correction:* Read '... to the case of irreducible germs. Let $\mathcal{J}$ be a prime ideal ...'.

- **CII-T36.** printed p. 94, proof of Lemma 4.15, sentence after the display $g = \sum_{0\leqslant j\leqslant q-1} b_j\tilde{u}^j$. *Printed:* where $b_0, \dots, b_{d-1}$ are the solutions of the linear system $\sigma_k g = \sum b_j(\sigma_k\tilde{u})^j$; the determinant (of Van der Monde type) is $\delta^{1/2}$. *Correction:* Read '$b_0, \dots, b_{q-1}$'.

- **CII-T37.** printed p. 95, proof of Lemma 4.18, last sentences ('The last statement is clear: ...'). *Printed:* if $f \in \mathcal{J}$ satisfies $\delta^m(z')f(z) = R(z\,;u(z''))$ mod $\mathcal{G}$ for $\deg_T R < q$, then $R(z'\,;\tilde{u}) = 0$. *Issue:* R is a polynomial of $\mathcal{O}_d[T]$, so its first argument is $z' = (z_1, \dots, z_d)$, as in the statement of Lemma 4.18 ($\delta(z')^m f(z) = R(z'\,;u(z''))$) and in the very next clause. *Correction:* Read $R(z'\,;u(z''))$.

- **CII-T38.** printed p. 96, first line after the statement of Lemma 4.21. *Printed:* I.t is obvious that $\mathcal{I}_{A,0} \supset \mathcal{J}$. *Issue:* 'It' is printed 'I.t', and the italic 'Proof.' heading that opens every other proof of the chapter is missing, so the proof runs on directly from the statement. *Correction:* Print 'Proof. It is obvious that $\mathcal{I}_{A,0} \supset \mathcal{J}$.'.

- **CII-T39.** printed p. 96, proof of Lemma 4.21, second sentence. *Printed:* Now, for any $f \in \mathcal{I}_{A,0}$, Prop. 4.13 implies that $\tilde{f}$ satisfies in $\mathcal{O}_n/\mathcal{I}$ an irreducible equation $f^r + b_1(z')f^{r-1} + \cdots + b_r(z') = 0 \pmod{\mathcal{J}}$. *Issue:* The ring is $\mathcal{O}_n/\mathcal{J}$, as in Prop. 4.13, (4.12) and the congruence 'mod $\mathcal{J}$' of the same display; in this section $\mathcal{I}$ is reserved for the ideals $\mathcal{I}_{A,x}$ of germs vanishing on A, and $\mathcal{I}$ alone is undefined. *Correction:* Read 'satisfies in $\mathcal{O}_n/\mathcal{J}$ an irreducible equation'.

- **CII-T40.** printed p. 96, 'Proof of Theorem 4.19 (end)', last display of the page (definition of $P_{\lambda,j}$). *Printed:* $P_{\lambda,j}(z'\,;T) = \prod_{\{z''\,;\,(z',z'')\in A_{S,j}\}}\big(T-\lambda(z'')\big) = \prod_{1\leqslant k\leqslant k_j}\big(T-\lambda\circ g_{j,k}(z')\big)$. *Issue:* The number of sheets of $\pi : A_{S,j}\to\Delta'\smallsetminus S$ is q_j, and the graphs are written $z''=g_{j,k}(z')$, $1\leqslant k\leqslant q_j$, four lines above; the symbol k_j is never defined, and with it the two products need not have the same number of factors. *Correction:* Replace $\prod_{1\leqslant k\leqslant k_j}$ by $\prod_{1\leqslant k\leqslant q_j}$.

- **CII-T41.** printed p. 98, paragraph after Definition 4.23. *Printed:* the connected components of A_{reg} are $\mathbb{C}$-analytic submanifolds of M (non necessarily closed). *Issue:* 'non necessarily' is a Gallicism; the book writes 'not necessarily' elsewhere (e.g. pp. 66, 68, 69). *Correction:* Read '(not necessarily closed)'.

- **CII-T42.** printed p. 100, proof of Theorem 4.31, third and fourth sentences. *Printed:* A can be defined by holomorphic equations $u_1(z)=\cdots=u_{n-d}(z)=0$ such that $du_1,\ldots,du_{n-d}$ are linearly independant. As $u_1,\ldots,u_{n-d}$ are generated by $g_1,\ldots,g_N$, one can extract a subfamily $g_{j_1},\ldots,g_{j_{n-d}}$ that has at least one non zero Jacobian determinant of rank $n-d$ at x. *Issue:* 'independant' is the French spelling (it occurs also on pp. 125 and 321), and 'a non zero Jacobian determinant of rank $n-d$' is incoherent, a determinant having no rank; what is meant is a non zero $(n-d)\times(n-d)$ minor of the Jacobian matrix, i.e. that this matrix has rank $n-d$ at x. *Correction:* Read 'linearly independent' and 'that has at least one non zero $(n-d)\times(n-d)$ Jacobian minor at x'.

- **CII-T43.** printed pp. 101, 102 and 105, subsection headings of Chapter II, § 5. *Printed:* § 5.1. Morphisms and Comorphisms (p. 101) … § 5.1. Definition of Complex Spaces (p. 102) … § 5.2. Coherent Sheaves over Complex Spaces (p. 105). *Issue:* The three subsections of § 5 are numbered 5.1, 5.1, 5.2: the heading of p. 102 repeats the number of the heading of p. 101. *Correction:* Renumber as § 5.1 (Morphisms and Comorphisms), § 5.2 (Definition of Complex Spaces), § 5.3 (Coherent Sheaves over Complex Spaces).

- **CII-T44.** printed p. 102, paragraph after Fig. II-2. *Printed:* (the real points of γ corresponding to $-1\leqslant x\leqslant 0$ form a path connecting the two branches). *Issue:* The curve is denoted Γ in the same sentence ('the cubic curve $\Gamma : y^2 = x^2(1+x)$', 'the germ $(\Gamma,0)$', '$\Gamma\smallsetminus\{0\}$') and in the caption of Fig. II-2; the lower-case γ denotes nothing. *Correction:* Replace γ by Γ.

- **CII-T45.** printed p. 104, proof of Proposition 5.6, parenthesis in the middle of the paragraph. *Printed:* (these components are either intersections of components $Z_j\subset Y_k$ or parts of the singular set of some component $Z\subset Y_k$, so there are in either case obtained by step b) or c) above). *Issue:* The subject of 'are obtained' is the components, so the pronoun must be 'they'; 'there are ... obtained' is ungrammatical. *Correction:* Replace 'so there are in either case obtained' by 'so they are in either case obtained'.

- **CII-T46.** printed p. 107, first line of Definition 6.7. *Printed:* (6.7) Definition. Let X be an complex space of pure dimension n. *Issue:* Wrong article. *Correction:* Replace 'an complex space' by 'a complex space'.

- **CII-T47.** printed p. 108, sentence following display (6.10). *Printed:* with the topology in which the open sets open sets are unions of sets of the type $\{G_x/H_x\,;\,x\in V\}\subset\mathcal{M}_X$. *Issue:* 'open sets' is printed twice. *Correction:* Delete one occurrence of 'open sets'.

- **CII-T48.** printed p. 109, sentence following formula (6.12). *Printed:* this definition does not depend on the choice of the local representant g/h. *Issue:* 'representant' is the French 'représentant'; the English word is 'representative'. *Correction:* Replace 'representant' by 'representative'.

- **CII-T49.** printed p. 109, last sentence of the proof of Theorem 6.13. *Printed:* As we will see in the next section, Th. 6.13 does not hold on an arbitrary complex space. *Correction:* Add such an example (in § 7, or immediately after the proof of Th. 6.13), or delete the forward reference.

- **CII-T50.** printed p. 109, paragraph after the proof of Theorem 6.13 (definition of the multiplicities m_j, p_j). *Printed:* f is holomorphic and $V\cap f^{-1}(0)=A'_j$. … and we have $\mathrm{div}(f_{|V})=-p_jB'_j$. *Correction:* Read $V_j\cap f^{-1}(0)=A'_j$ and $\mathrm{div}(f_{|W_j})=-p_jB'_j$.

- **CII-T51.** printed p. 112, proof of Theorem 7.5, sentence citing [Lang 1965]. *Printed:* it follows that that any meromorphic germ f such that $f\mathcal{I}_x \subset \mathcal{I}_x$ is integral over $\mathcal{O}_{X,x}$. *Issue:* 'that' is printed twice. *Correction:* Delete one 'that'.

- **CII-T52.** printed p. 116, proof of Lemma 8.1 a), third sentence. *Printed:* there is a ramified covering π from some neighborhood of y in Y_k onto a polydisk in $\Delta' \subset \mathbb{C}^p$. *Issue:* Δ' is the polydisk itself; it is introduced nowhere else, and the next sentence writes $\pi \circ F_{|X_j} : X_j \to \Delta'$ and 'we may suppose that $Y = \Delta'$'. *Correction:* Replace 'onto a polydisk in $\Delta' \subset \mathbb{C}^p$' by 'onto a polydisk $\Delta' \subset \mathbb{C}^p$'.

- **CII-T53.** printed p. 117, third sentence of the proof of Proposition 8.4. *Printed:* the fiber of $F \circ \pi$ at point x has the same dimension than the fiber of F at $\pi(x)$ by Lemma 8.1 b). *Issue:* Gallicism ('la même dimension que'); English requires 'the same dimension as'. *Correction:* Replace 'the same dimension than' by 'the same dimension as'.

- **CII-T54.** printed p. 121, proof of Chow's theorem 8.10, sentence beginning 'We claim'. *Printed:* coincides with the common zero W set of the polynomials $P_{j,k}$. *Issue:* The set is called W; the words 'set' and 'W' are transposed. *Correction:* Replace 'the common zero W set' by 'the common zero set W'.

- **CII-T55.** printed p. 121, proof of Theorem 8.11, sentence beginning 'Since h vanishes along P_f'. *Printed:* there is a local coordinate $z_{1,j}$ at x_j defining an equation of $\overline{P}_{f,j}$, such that $z_{1,j}^{m_j} f \in \mathcal{O}_{X,x_j}$ for some integer m_j. Since h vanishes along P_f, we have $h^{m_j} f \in \mathcal{O}_{X,x}$. *Correction:* Replace $h^{m_j} f \in \mathcal{O}_{X,x}$ by $h^{m_j} f \in \mathcal{O}_{X,x_j}$.

- **CII-T56.** printed p. 125, § 9.8, displayed formula for z_j. *Printed:* $z_j = \sum_{1 \leqslant k \leqslant d} c_{jk} s_k + u_j + f_j, \quad c_{jk} \in \mathbb{C},\ u_j \in \mathfrak{m}_{\Omega,x}^2,\ f_j \in \mathcal{J}_x,\ 1 \leqslant j \leqslant n$. *Correction:* Replace '$1 \leqslant j \leqslant n$' by '$1 \leqslant j \leqslant N$'.

- **CII-T57.** printed p. 125, § 9.8, sentence after the display for dz_j. *Printed:* Assume for example that $df_1(x), \ldots, df_{N-d}(x)$ are linearly independant . *Issue:* 'independant' is the French spelling, and a spurious space precedes the full stop. *Correction:* Replace 'independant .' by 'independent.'.

- **CII-T58.** printed p. 126, last line of the proof of Lemma 10.3. *Printed:* Then there is a neighborhood U of x such that $\widetilde{g} - v\widetilde{h}$ is a nilpotent section of $c\mathcal{O}_\Omega(U \smallsetminus B)$ which is in $\mathcal{I}$ on. *Issue:* The page ends here, in mid-sentence; p. 127 begins with '(10.4) Definition.', so at least the last line and the end of the proof are missing. Since Lemma 10.3 is what the surjectivity half of the proof of (10.2) rests on ('Our claim now follows from the following Lemma'), that half of (10.2) is left unproved. *Correction:* Complete the proof of Lemma 10.3 (or restrict (10.2) to reduced spaces, where Th. 7.2 already gives the conclusion).

- **CII-T59.** printed pp. 126–127, § 10 as a whole (heading on p. 126, end at (10.4) on p. 127). *Printed:* § 10. Bimeromorphic maps, Modifications and Blow-ups. *Correction:* Either complete § 10 (definition of a bimeromorphic map; blow-up of a coherent ideal sheaf, exceptional divisor, strict transform, universal property), or change the title of the section and its table-of-contents entry to 'Modifications and Meromorphic Maps' and redirect the reader to § VII-12 for blow-ups.

- **CII-T60.** printed p. 126, last line of the proof of Lemma 10.3. *Printed:* is a nilpotent section of $c\mathcal{O}_\Omega(U \smallsetminus B)$. *Issue:* '$cO_\Omega$' is the residue of a broken macro: the letter c is typeset as ordinary text and the O is an italic O, not the script $\mathcal{O}$ used for structure sheaves throughout the book. *Correction:* Read 'a nilpotent section of $\mathcal{O}_\Omega(U \smallsetminus B)$'.

- **CII-T61.** printed p. 126, first sentence of the proof of (10.2). *Printed:* Proof. Let $v = g/h$ be a section of $\mathcal{M}_Y$ on a small open set Ω where u is actually given as a quotient of functions $g, h \in \mathcal{O}_Y(\Omega)$. Then $F^\star u = (g \circ F)/(h \circ F)$. *Correction:* Replace 'Let $v = g/h$ be a section' by 'Let $u = g/h$ be a section'.

- **CII-T62.** printed p. 126, item (10.2), heading. *Printed:* (10.2) Definition. If $F : X \to Y$ is a modification, then the comorphism $F^\star : f^\star\mathcal{O}_Y \to \mathcal{O}_X$ induces an isomorphism $F^\star : f^\star\mathcal{M}_Y \to \mathcal{M}_X$ .... *Issue:* The item asserts that a certain comorphism is an isomorphism and is immediately followed by "*Proof.*" and a two-paragraph argument. It is therefore a proposition, not a definition; nothing is being defined. *Correction:* Replace "(10.2) Definition." by "(10.2) Proposition.".

- **CII-T63.** printed p. 127, Exercise § 11.6, hint. *Printed:* take coordinates such that $P(0,\dots,0,z_n)$ has degree equal to P. *Issue:* A polynomial cannot have degree equal to P; the intended condition is that P be z_n-regular of order $\deg P$, i.e. $\deg_{z_n} P(0,\dots,0,z_n) = \deg P$. *Correction:* Replace 'has degree equal to P' by 'has degree equal to $\deg P$'.

Chapter III. Positive Currents and Lelong Numbers

Range checked: printed pp. 129–194.

Mathematical corrections, cross-references and proof clarifications

CIII-M01. § 1.18: $u = 2\operatorname{Re} v$ should be $u = 2\operatorname{Im} v$

- **Type:** mathematical error.
- **Precise location:** printed p. 135, § 1.18, line following the display $\Theta = dS = d'd''(v-\overline{v}) = \mathrm{i}d'd''u$.
- **Printed text:** $S = \overline{d''v} + d''v = d'\overline{v} + d''v, \qquad \Theta = dS = d'd''(v-\overline{v}) = \mathrm{i}d'd''u$, where $u = 2\operatorname{Re} v \in \mathcal{D}'(\Omega,\mathbb{R})$.
- **Issue:** From $\mathrm{i}d'd''u = d'd''(v-\overline{v})$ one gets $u = (v-\overline{v})/\mathrm{i} = -\mathrm{i}(v-\overline{v}) = 2\operatorname{Im} v$, not $2\operatorname{Re} v$. Model case: $n = 1$, $\Theta = \mathrm{i}d'd''\varphi$ with φ real and smooth. Then $S = \frac{\mathrm{i}}{2}(d''\varphi - d'\varphi)$ is real and satisfies $dS = \Theta$, and $S^{0,1} = \frac{\mathrm{i}}{2}d''\varphi = d''v$ with $v = \frac{\mathrm{i}}{2}\varphi$. Here $2\operatorname{Im} v = \varphi = u$, whereas $2\operatorname{Re} v = 0$; with the printed formula one would conclude $\Theta = 0$.
- **Correction / repair:** Replace "$u = 2\operatorname{Re} v$" by "$u = 2\operatorname{Im} v = -\mathrm{i}(v-\overline{v})$".

CIII-M02. § 1.18: wrong reference "Th. I.3.31" for plurisubharmonicity

- **Type:** cross-reference error.
- **Precise location:** printed p. 135, § 1.18, last sentence before Prop. (1.19).
- **Printed text:** When Θ is positive, the distribution u is a plurisubharmonic function (Th. I.3.31).
- **Issue:** There is no statement I-(3.31): Chapter I, § 3 stops at (3.30) (hypoellipticity of d'' in bidegree $(p,0)$). The result used here — a distribution u such that $Hu(\xi)$ is a positive measure for every $\xi \in \mathbb{C}^n$ is given by a plurisubharmonic function — is the converse part of Th. I-(5.8), p. 40.
- **Correction / repair:** Replace "Th. I.3.31" by "Th. I.5.8".

CIII-M03. § 1.18: $\mathcal{D}'_1$ should be $\mathcal{D}'^{\,1}$ (degree, not dimension)

- **Type:** notation error.
- **Precise location:** printed p. 135, § 1.18, sentence beginning "Poincaré's lemma implies that every point $x_0 \in X$".
- **Printed text:** Poincaré's lemma implies that every point $x_0 \in X$ has a neighborhood Ω_0 such that $\Theta = dS$ with $S \in \mathcal{D}'_1(\Omega_0,\mathbb{R})$.
- **Issue:** By Definition I-(2.3) a lower index denotes the *dimension* of a current, so $\mathcal{D}'_1(\Omega_0,\mathbb{R})$ is the space of currents of dimension 1, i.e. of degree $2n-1$. Here S must be of degree 1: one writes $S = S^{1,0} + S^{0,1}$ and $dS = \Theta$ is of degree 2. Thus $S \in \mathcal{D}'^{\,1}(\Omega_0,\mathbb{R}) = \mathcal{D}'_{2n-1}(\Omega_0,\mathbb{R})$.
- **Correction / repair:** Replace $\mathcal{D}'_1(\Omega_0,\mathbb{R})$ by $\mathcal{D}'^{\,1}(\Omega_0,\mathbb{R})$.

CIII-M04. Wirtinger's inequality (1.25): "Lemma I.4.23" should be Lemma I.7.15

- **Type:** cross-reference error.
- **Precise location:** printed p. 137, proof of Wirtinger's inequality (1.25), sentence beginning "In this case $T_zY \subset T_zX$ is a complex vector subspace".
- **Printed text:** $T_zY \subset T_zX$ is a complex vector subspace at every point $z \in Y$, thus Y is complex analytic by Lemma I.4.23.
- **Issue:** I-(4.23) is Choquet's lemma on upper envelopes of families of subharmonic functions (p. 38), which is unrelated. The statement used is Lemma I-(7.15), p. 60: if Y is a C^1-submanifold of a complex analytic manifold X and $T_{Y,x}$ is a complex subspace of $T_{X,x}$ at every point $x \in Y$, then Y is complex analytic.
- **Correction / repair:** Replace "Lemma I.4.23" by "Lemma I.7.15".

CIII-M05. Lemma 2.2: Richberg's theorem is I.5.21, not I.3.40

- **Type:** cross-reference error.
- **Precise location:** printed p. 138, proof of Lemma (2.2), last sentence of the page.
- **Printed text:** Richberg's theorem I.3.40 applied on $\Omega \smallsetminus E$ produces $v \in \mathrm{Psh}(\Omega \smallsetminus E) \cap \mathcal{C}^\infty(\Omega \smallsetminus E)$.
- **Issue:** There is no statement I-(3.40): Chapter I, § 3 stops at (3.30). Richberg's theorem is Th. I-(5.21) ([Richberg 1968], p. 43); it is quoted inside Chapter I itself as "Richberg's theorem 5.21" (p. 47).
- **Correction / repair:** Replace "Richberg's theorem I.3.40" by "Richberg's theorem I.5.21".

CIII-M06. Lemma 2.6: "Prop. II.3.8 and Th. II.3.19" should be II.4.8 and II.4.19

- **Type:** cross-reference error.
- **Precise location:** printed p. 140, proof of Lemma (2.6), sentence "defines a ramified covering of A".
- **Printed text:** $\pi_s : A \cap (\Delta' \times \Delta'')$, $w \longmapsto w' = (w_1, \ldots, w_p)$ defines a ramified covering of A (cf. Prop. II.3.8 and Th. II.3.19), and that (β_s) remains a basis of $\Lambda^{p,p}T^\star\Omega$.
- **Issue:** II-(3.8) is the Definition of a locally finitely generated sheaf (p. 87) and II-(3.19) is Oka's coherence theorem (p. 89); neither concerns ramified coverings. The section on local analytic geometry was renumbered from § 3 to § 4: the statements meant are Prop. II-(4.8) (existence of generic coordinates, together with Cor. II-(4.11) for the properness of the projection) and the Local parametrization theorem II-(4.19), which produces exactly the ramified covering $\pi : A \cap (\Delta' \times \Delta'') \to \Delta'$ with ramification locus S and q sheets that is used here.
- **Correction / repair:** Replace "(cf. Prop. II.3.8 and Th. II.3.19)" by "(cf. Prop. II.4.8 and Th. II.4.19)".

CIII-M07. Corollary 2.11: "Theorem 2.9" should be Theorem 2.10

- **Type:** cross-reference error.
- **Precise location:** printed p. 141, proof of Corollary (2.11).
- **Printed text:** As A_{reg} is a submanifold of CRdim $< p$ in $X \smallsetminus A_{\mathrm{sing}}$, Theorem 2.9 shows that $\mathrm{Supp}\,\Theta \subset A_{\mathrm{sing}}$.
- **Issue:** (2.9) is the displayed formula $\mathrm{CRdim}\, M = \max_{x\in M} \mathrm{CRdim}_x M$ on the same page, not a theorem. The statement invoked is the First theorem of support (2.10).
- **Correction / repair:** Replace "Theorem 2.9" by "Theorem 2.10".

CIII-M08. Before (2.12): "Lemma 1.7.18" should be Lemma I.7.15

- **Type:** cross-reference error.
- **Precise location:** printed p. 142, § 2.C, paragraph preceding (2.12).
- **Printed text:** moreover, the fibers F_t are necessarily complex analytic in view of Lemma 1.7.18.
- **Issue:** There is no statement I-(7.18): Chapter I, § 7 stops at (7.15). The statement used is Lemma I-(7.15), p. 60 (a C^1-submanifold whose tangent spaces are complex subspaces is complex analytic). The form "1.7.18" is moreover the obsolete chapter.section.item style, inconsistent with "Lemma I.4.23" (p. 137) and "Prop. II.3.8" (p. 140).
- **Correction / repair:** Replace "Lemma 1.7.18" by "Lemma I.7.15".

CIII-M09. (2.12): test forms u lie in $\mathcal{D}_{p,p}(X)$, not $\mathcal{D}'_{p,p}(X)$

- **Type:** notation error.
- **Precise location:** printed p. 142, line following formula (2.12).
- **Printed text:** for all $u \in \mathcal{D}'_{p,p}(X)$. Then clearly $\Theta \in \mathcal{D}'_{p,p}(X)$ is a closed current of order 0.
- **Issue:** In $\langle \Theta, u\rangle = \int_{t\in Y}\big(\int_{F_t} u\big) d\mu(t)$ the symbol u is a test form: it is integrated over the p-dimensional fibers F_t, so it must be a smooth compactly supported (p,p)-form, i.e. $u \in \mathcal{D}_{p,p}(X)$ and not a current. Compare (2.5) on p. 140, where the same pairing is written with $v \in \mathcal{D}_{p,p}(X)$. The second occurrence, $\Theta \in \mathcal{D}'_{p,p}(X)$, is correct.
- **Correction / repair:** Replace "for all $u \in \mathcal{D}'_{p,p}(X)$" by "for all $u \in \mathcal{D}_{p,p}(X)$".

CIII-M10. Theorem 2.13: (2.10) is a theorem of support, not "Prop. 2.10"

- **Type:** cross-reference error.
- **Precise location:** printed p. 142, proof of Theorem (2.13), sentence "As in Prop. 2.10, we get …".
- **Printed text:** As in Prop. 2.10, we get $\zeta_k \wedge \Theta = \overline{\zeta}_k \wedge \Theta = 0$ for $1 \leqslant k \leqslant n-p$.
- **Issue:** (2.10) is stated as "First theorem of support", i.e. as a theorem; it is not a proposition.
- **Correction / repair:** Replace "As in Prop. 2.10" by "As in Th. 2.10".

CIII-M11. Lelong-Poincaré (2.15): obsolete references Sect. 2.6, (2.6.14), Th. 2.6.6

- **Type:** cross-reference error.
- **Precise location:** printed p. 143, paragraph following the statement of (2.15) and, at the foot of the page, the last sentence of the proof.
- **Printed text:** We refer to Sect. 2.6 for the definition of divisors, and especially to (2.6.14). … Then Th. 2.6.6 shows that f can be written $f(w) = u(w)w_1^{m_j}$.
- **Issue:** These are obsolete chapter.section.item references. Inside Chapter III, "Sect. 2.6" reads as a subsection of § 2 (Chapter III uses lettered subsections § 2.A, § 2.B, …), "(2.6.14)" does not exist, and "Th. 2.6.6" collides with Lemma (2.6) of the present chapter. The items meant are § II-6.2 (Divisors and meromorphic functions), formula II-(6.14), $\mathrm{div}(f) = \sum m_j A_j - \sum p_j B_j$ (p. 110), and Th. II-(6.6), the local factorization $f = ug_1^{m_1}\cdots g_N^{m_N}$ (p. 106).
- **Correction / repair:** Replace "Sect. 2.6" by "§ II-6.2", "(2.6.14)" by "(II-6.14)" and "Th. 2.6.6" by "Th. II-6.6".

CIII-M12. Proof of (2.15): "formula (1.2.19)" should be formula (I-2.19)

- **Type:** cross-reference error.
- **Precise location:** printed p. 144, proof of (2.15), sentence beginning "If $\Phi : \mathbb{C}^n \longrightarrow \mathbb{C}$ is the projection $z \mapsto z_1$".
- **Printed text:** If $\Phi : \mathbb{C}^n \longrightarrow \mathbb{C}$ is the projection $z \longmapsto z_1$ and $H \subset \mathbb{C}^n$ the hyperplane $\{z_1 = 0\}$, formula (1.2.19) shows that.
- **Issue:** Obsolete chapter.section.item reference. The formula meant is I-(2.19), $F^\star[Z] = [F^{-1}(Z)]$ (p. 18), which is what gives $\Phi^\star([0]) = [H]$.
- **Correction / repair:** Replace "formula (1.2.19)" by "formula (I-2.19)".

CIII-M13. Remark 3.5: missing factors 2 in the polarization identity

- **Type:** mathematical error.
- **Precise location:** printed p. 146, Remark (3.5), last display ("the polarization identity").
- **Printed text:** $2(dv_j \wedge d^c w_j + dw_j \wedge d^c v_j) = dd^c(v_j + w_j)^2 - dd^c v_j^2 - dd^c w_j^2 - v_j dd^c w_j - w_j dd^c v_j$.
- **Issue:** Since $dd^c(f^2) = 2\,df \wedge d^c f + 2f\,dd^c f$, one gets $dd^c(v+w)^2 - dd^c v^2 - dd^c w^2 = 2(dv \wedge d^c w + dw \wedge d^c v) + 2v\,dd^c w + 2w\,dd^c v$, so the last two terms must carry a factor 2. Test with $v = w = f$: the printed right-hand side equals $4\,df \wedge d^c f + 2f\,dd^c f$, whereas the left-hand side is $4\,df \wedge d^c f$; the discrepancy $2f\,dd^c f$ does not vanish. The conclusion of the Remark is unaffected, $2v_j\,dd^c w_j$ being again a product of the type controlled by (3.3).
- **Correction / repair:** Replace the last two terms of the right-hand side by $-2v_j dd^c w_j - 2w_j dd^c v_j$.

CIII-M14. Corollary 3.6: the decomposition of $u^k T_k - uT$ misses the term $(u_\varepsilon - u)T$

- **Type:** mathematical error.
- **Precise location:** printed p. 147, proof of Corollary (3.6), displayed decomposition of $u^k T_k - uT$.
- **Printed text:** $u^k T_k - uT = (u^k - u)T_k + (u - u_\varepsilon)T_k + u_\varepsilon(T_k - T)$.
- **Issue:** The right-hand side telescopes to $u^k T_k - u_\varepsilon T$, not to $u^k T_k - uT$: the term $(u_\varepsilon - u)T$ is missing. Test case $T_k = T$ and $u^k = u$: the left-hand side is 0 while the right-hand side is $(u - u_\varepsilon)T \neq 0$.
- **Correction / repair:** Replace by $u^k T_k - uT = (u^k - u)T_k + (u - u_\varepsilon)T_k + u_\varepsilon(T_k - T) + (u_\varepsilon - u)T$, and add that the last term also tends to 0, since $\|(u_\varepsilon - u)T\|_K \leqslant \|u_\varepsilon - u\|_{L^\infty(K)}\|T\|_K \to 0$ as $\varepsilon \to 0$ by the continuity of u.

CIII-M15. After Prop. 4.1: "§ 7.12" should be § VII-12 (blow-ups)

- **Type:** cross-reference error.
- **Precise location:** printed p. 150, remarks following Proposition (4.1).
- **Printed text:** example: X = blow-up of $\mathbb{C}^n$ at 0, $T = [E]$ = current of integration on the exceptional divisor and $u(z) = \log|z|$ (see § 7.12 for the definition of blow-ups).
- **Issue:** Blow-ups are not defined in § 7 of Chapter III; III-(7.12), p. 172, is a formula belonging to the slicing theory of currents. "§ 7.12" is the obsolete chapter.section form for Chapter VII, § 12, "Blowing-up along a Submanifold" (p. 353), and it is actively misleading inside Chapter III, which has its own § 7 and its own (7.12).
- **Correction / repair:** Replace "§ 7.12" by "§ VII-12" (the blow-up of a point is also described in Remark VII-(4.5)).

CIII-M16. Proof of Prop. 4.6, Step 2: α has bidegree $(p-q+1, p-q+1)$

- **Type:** mathematical error.
- **Precise location:** printed p. 155, proof of Step 2 of Proposition (4.6), sentence beginning "when $L = \overline{B}(x_0, r)$ is disjoint from A_j".
- **Printed text:** we only have to obtain a bound for $\int_L u_1 dd^c u_2 \wedge \ldots \wedge dd^c u_q \wedge T \wedge \alpha$ when $L = \overline{B}(x_0, r)$ is disjoint from A_j for some $j \geqslant 2$, say $L \cap A_2 = \emptyset$, and α is a constant positive form of type $(p-q, p-q)$.
- **Issue:** Bidegree count: T has bidimension (p, p) and only $q-1$ factors $dd^c u_j$ occur ($j = 2, \ldots, q$), so $u_1 dd^c u_2 \wedge \ldots \wedge dd^c u_q \wedge T$ has bidimension $(p-q+1, p-q+1)$ and the integrand is a measure only if α has bidegree $(p-q+1, p-q+1)$. This is confirmed by the test form actually used at the beginning of Step 2 on p. 154, namely $\chi(z')(dd^c|z'|^2)^s \wedge dd^c|z_{s+1}|^2$ with $s = p-q$, whose bidegree is $(s+1, s+1) = (p-q+1, p-q+1)$.
- **Correction / repair:** Replace "a constant positive form of type $(p-q, p-q)$" by "a constant positive form of type $(p-q+1, p-q+1)$". For the same reason the exponent s in $\alpha = \chi(z')(dd^c|z'|^2)^s$ in the proof of (4.9), same page, must be read as $s = p-q+1$, and not as the $s = p-q$ of Step 1.

CIII-M17. Proof of Prop. 4.6, Step 2: impossible cut-off χ

- **Type:** mathematical error.
- **Precise location:** printed p. 155, proof of Step 2 of Proposition (4.6), sentence beginning "Let $\chi \geqslant 0$ be a smooth function".
- **Printed text:** Let $\chi \geqslant 0$ be a smooth function equal to 1 on $B(x_0, r+\varepsilon/2)$ with support in $B(x_0, r)$.
- **Issue:** Impossible as printed: $B(x_0, r) \subset B(x_0, r+\varepsilon/2)$, so no function supported in $B(x_0, r)$ can be $\equiv 1$ on $B(x_0, r+\varepsilon/2)$. The argument needs $\chi \equiv 1$ on $B(x_0, r+\varepsilon/2)$, so that $dd^c(\chi\widetilde{u}_2) = dd^c u_2$ on $L = \overline{B}(x_0, r)$, and χ compactly supported in $B(x_0, r+\varepsilon)$, the ball over which the two following integrals are taken, so that the integration by parts produces no boundary term.
- **Correction / repair:** Replace "with support in $B(x_0, r)$" by "with support in $B(x_0, r+\varepsilon)$".

CIII-M18. Proof of Prop. 4.9: "Step 1 in 4.7" should be "Step 1 in 4.6"

- **Type:** cross-reference error.
- **Precise location:** printed p. 155, proof of Proposition (4.9), sentence following the displayed inequality.
- **Printed text:** Here the functions χ_j, χ are chosen as in the proof of Step 1 in 4.7, especially their product has compact support in $B' \times B''$.
- **Issue:** "Step 1" is a step of the proof of Proposition (4.6) (pp. 153–154), where the cut-off functions χ_j and χ are constructed. (4.7) is the elementary Lemma on the generic choice of unitary coordinates; its proof contains no steps and no cut-off functions.
- **Correction / repair:** Replace "the proof of Step 1 in 4.7" by "the proof of Step 1 in 4.6".

CIII-M19. Proof of Prop. 4.12: the limit $\varepsilon \to 0$ is not justified

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 157, proof of Proposition (4.12), last two sentences.
- **Printed text:** In general, we replace f_q by $f_q - \varepsilon$ so that the divisor of $f_q - \varepsilon$ has no component contained in A_{sing}. Then $dd^c(\log|f_q - \varepsilon|\,[A])$ is an integral codimension q cycle with positive multiplicities on each component of $A \cap f_q^{-1}(\varepsilon)$ and we conclude by letting ε tend to zero.
- **Issue:** Two points are left without argument. (i) None of the continuity theorems available applies to the family $\log|f_q - \varepsilon|$: it is not monotone in ε, so Prop. (4.9) does not apply, and it does not converge locally

uniformly, so Cor. (3.6) does not apply either; what is needed is the L^1_{loc}-convergence $\log|f_q-\varepsilon|\,[A]\to\log|f_q|\,[A]$, which does hold (the traces are plurisubharmonic on the local ramified coverings of A and are locally uniformly bounded above, so a.e. convergence gives L^1_{loc} convergence). (ii) Even granting the weak convergence, the limit is a priori only of the form $\sum\lambda_k[C_k]$ with real $\lambda_k\geqslant 0$ (Cor. (2.14)); the integrality of the λ_k — which is exactly what is being proved — does not follow automatically from the integrality of the approximating cycles and needs an argument, e.g. counting the sheets of $A\cap f_q^{-1}(\varepsilon)$ over a small ball around a generic point of C_k and observing that this number is independent of ε for ε small.

- **Correction / repair:** Add the justification of the limit $\varepsilon\to 0$: the L^1_{loc}-convergence $\log|f_q-\varepsilon|\,[A]\to\log|f_q|\,[A]$, and the constancy in ε of the local intersection number of $A\cap f_q^{-1}(\varepsilon)$ along each component C_k, which gives the integrality of the limiting multiplicities.

CIII-M20. Before Def. 5.4: "the results of § 2" should be "§ 4"

- **Type:** cross-reference error.
- **Precise location:** printed p. 158, first sentence of the page, introducing Definition (5.4).
- **Printed text:** $P=S(-\infty)\cap\operatorname{Supp}T$ is compact and the results of § 2 show that the measure $T\wedge(dd^c\varphi)^p$ is well defined.
- **Issue:** § 2 (closed positive currents and the theorems of support) contains nothing about Monge-Ampère products. Here $\varphi=-\infty$ on P, so the product $T\wedge(dd^c\varphi)^p$ with an unbounded weight is defined by the results of § 4 — Prop. (4.1) and Cor. (4.3) — whose hypothesis b) is exactly the situation described (X Stein and $L(\varphi)\cap\operatorname{Supp}T=P$ compact). The very next paragraph refers to "the example given after (4.1)".
- **Correction / repair:** Replace "the results of § 2" by "the results of § 4".

CIII-M21. Remark 5.9: "Thie's theorem 8.7" should be Thie's theorem 7.7

- **Type:** cross-reference error.
- **Precise location:** printed p. 159, Remark (5.9), last line.
- **Printed text:** We will see later that $\nu([A],x)$ is always an integer (Thie's theorem 8.7).
- **Issue:** Thie's theorem is (7.7) of the present chapter, p. 168: "(7.7) Theorem ([Thie 1967]). One has $\nu([A],x)=m$", where m is the multiplicity introduced in Theorem and Definition (7.6). III-(8.7), p. 176, is a displayed formula in § 8 (Siu's semicontinuity theorem) and is unrelated.
- **Correction / repair:** Replace "Thie's theorem 8.7" by "Thie's theorem 7.7".

CIII-M22. Proof of Prop. 5.12: the maximum defining ψ_ℓ has lost its argument φ

- **Type:** mathematical error.
- **Precise location:** printed p. 161, proof of Prop. 5.12, paragraph beginning "We then let ℓ tend to $+\infty$", definition of ψ_ℓ used for the first inequality.
- **Printed text:** we define ψ_ℓ so that $\psi_\ell=\varphi$ on $X\setminus B(r)$ and $\psi_\ell=\max\{(1-\varepsilon)(\varphi_\ell-1/\ell)+r\varepsilon\}$ on $\overline{B}(r)$.
- **Issue:** The maximum is printed with a single argument, so the definition is meaningless; moreover the two pieces would not match along $S(r)$ and ψ_ℓ would not be plurisubharmonic. With $\varphi\leqslant\varphi_\ell<\varphi+1/\ell$ on $\{r-\varepsilon\leqslant\varphi\leqslant r+\varepsilon\}$ one gets, on $S(r)$, $(1-\varepsilon)(\varphi_\ell-1/\ell)+r\varepsilon<(1-\varepsilon)r+r\varepsilon=r=\varphi$, and on $S(r-\varepsilon/2)$, $(1-\varepsilon)(\varphi_\ell-1/\ell)+r\varepsilon\geqslant r-\varepsilon/2+\varepsilon^2/2-(1-\varepsilon)/\ell>\varphi$ as soon as $(1-\varepsilon)/\ell<\varepsilon^2/2$. Thus the maximum with φ is exactly what makes the gluing coherent and gives $(dd^c\psi_\ell)^p=(1-\varepsilon)^p(dd^c\varphi_\ell)^p$ on $B(r-\varepsilon/2)$, as used in the two displayed inequalities. Compare the parallel construction $\psi_\ell=\max\{\varphi,(1+\varepsilon)(\varphi_\ell-1/\ell)-r\varepsilon\}$ on p. 160.
- **Correction / repair:** Replace $\max\{(1-\varepsilon)(\varphi_\ell-1/\ell)+r\varepsilon\}$ by $\max\{\varphi,\ (1-\varepsilon)(\varphi_\ell-1/\ell)+r\varepsilon\}$.

CIII-M23. Proof of Prop. 6.4: (3.6) is a Corollary, not a Theorem

- **Type:** cross-reference error.
- **Precise location:** printed p. 162, proof of Prop. 6.4, second sentence.
- **Printed text:** Theorem 3.6 shows that $(dd^c\chi_k \circ \varphi)^n$ converges weakly to $(dd^c\varphi_{\geqslant r})^n$.
- **Issue:** (3.6) is a Corollary (printed p. 147). The same result is quoted correctly as "Cor. 3.6" eight lines above on this very page ("By Cor. 3.6, the map $r \mapsto (dd^c\varphi_{\geqslant r})^n$ is continuous") and again in the proof of Prop. 5.13, p. 161.
- **Correction / repair:** Replace "Theorem 3.6" by "Cor. 3.6".

CIII-M24. Formula (6.9 d): wrong reference for the Harnack estimate

- **Type:** cross-reference error.
- **Precise location:** printed p. 165, parenthesis on the line following formula (6.9 d).
- **Printed text:** (this estimate follows easily from the Green-Riesz representation formula 1.4.6 and 1.4.7).
- **Issue:** In Chapter I, the Green-Riesz representation formula is (4.5) (p. 31); (4.6) is the explicit formula for the Poisson kernel and (4.7) is the definition of the Poisson operator $P_{a,r}[v]$. Moreover (6.9 d) is exactly the second inequality of the Harnack inequality I-(4.22 b) (p. 37): for $u \leqslant 0$ subharmonic on $B(0,r) \subset \mathbb{R}^m$, $u(x) \leqslant \frac{r^{m-2}(r-|x|)}{(r+|x|)^{m-1}}\mu_S(u;0,r)$, which for $m = 2n$ and $|x| = \varepsilon r$ gives precisely the constant $\frac{1-\varepsilon}{(1+\varepsilon)^{2n-1}}$.
- **Correction / repair:** Replace "the Green-Riesz representation formula 1.4.6 and 1.4.7" by "the Harnack inequality 1.4.22 b)", i.e. I-(4.22 b).

CIII-M25. Formula (6.11 d): the polydisk must be centred at x

- **Type:** mathematical error.
- **Precise location:** printed p. 166, formula (6.11 d), both lines.
- **Printed text:** $\nu(dd^cV, x, \lambda) = \lim_{r\to 0} \frac{\lambda_1 \ldots \lambda_n}{\log r} \int V(r^{1/\lambda_1}e^{i\theta_1}, \ldots, r^{1/\lambda_n}e^{i\theta_n}) \frac{d\theta_1 \ldots d\theta_n}{(2\pi)^n}$.
- **Issue:** By (6.11 c) the left-hand side is the directional Lelong number attached to the weight $\log \max |z_j - x_j|^{\lambda_j}$, whose sublevel sets are polydisks centred at x; the formula displayed at the bottom of p. 165 is the case $x = 0$, and the change of variable $r \mapsto \log r$ leaves the centre unchanged. As printed the right-hand side is evaluated on polydisks centred at the origin, so the identity is false for $x \neq 0$.
- **Correction / repair:** In both lines of (6.11 d) replace $V(r^{1/\lambda_1}e^{i\theta_1}, \ldots, r^{1/\lambda_n}e^{i\theta_n})$ by $V(x_1 + r^{1/\lambda_1}e^{i\theta_1}, \ldots, x_n + r^{1/\lambda_n}e^{i\theta_n})$.

CIII-M26. Proof of (7.1): "Definition 6.4" should be "Definition 5.4"

- **Type:** cross-reference error.
- **Precise location:** printed p. 166, proof of the first comparison theorem (7.1), first sentence.
- **Printed text:** Definition 6.4 shows immediately that $\nu(T, \lambda\varphi) = \lambda^p\nu(T, \varphi)$ for every scalar $\lambda > 0$.
- **Issue:** (6.4) is a Proposition (p. 162) identifying μ_r with the volume form $(dd^c\varphi)^{n-1} \wedge d^c\varphi_{|S(r)}$; it says nothing about homogeneity. The homogeneity is immediate from Definition (5.4) (p. 158), $\nu(T, \varphi) = \int_{S(-\infty)} T \wedge (dd^c\varphi)^p$, since $(dd^c\lambda\varphi)^p = \lambda^p(dd^c\varphi)^p$.
- **Correction / repair:** Replace "Definition 6.4" by "Definition 5.4".

CIII-M27. Proof of (7.1): $1/l$ printed for $1/\ell$

- **Type:** notation error.
- **Precise location:** printed p. 166, proof of the first comparison theorem (7.1), last sentence.
- **Printed text:** The equality case is obtained by reversing the roles of φ and ψ and observing that $\lim \varphi/\psi = 1/l$.
- **Issue:** The constant of the statement is denoted ℓ throughout ($\ell := \limsup \psi/\varphi$, $\nu(T,\psi) \leqslant \ell^p \nu(T,\varphi)$); here an ordinary italic l is used for the same quantity.
- **Correction / repair:** Replace $1/l$ by $1/\ell$.

CIII-M28. §7: "section 7 (see Cor. 9.16)" should be "section 9 (see Cor. 9.14)"

- **Type:** cross-reference error.
- **Precise location:** printed p. 167, paragraph following Cor. 7.4's announcement, sentence after the inequalities $\lambda_1^p \nu(T,x) \leqslant \nu(T,x,\lambda) \leqslant \lambda_n^p \nu(T,x)$.
- **Printed text:** These inequalities will be improved in section 7 (see Cor. 9.16).
- **Issue:** There is no statement numbered (9.16): §9 ends with the Remark (9.15) on p. 188. The improvement announced is Cor. (9.14) (p. 188), $\lambda_1 \ldots \lambda_p \, \nu(T,x) \leqslant \nu(T,x,\lambda) \leqslant \lambda_{n-p+1} \ldots \lambda_n \, \nu(T,x)$. Moreover it is proved in §9, not in §7, which is the section being read.
- **Correction / repair:** Replace "in section 7 (see Cor. 9.16)" by "in section 9 (see Cor. 9.14)".

CIII-M29. Lemma 7.5: "Th. II.3.19" should be "Th. II.4.19"

- **Type:** cross-reference error.
- **Precise location:** printed p. 168, paragraph preceding Lemma 7.5, last sentence.
- **Printed text:** Our starting point is the following consequence of Th. II.3.19 applied simultaneously to all irreducible components of (A,x).
- **Issue:** II-(3.19) is the Coherence theorem of Oka (p. 89). What Lemma 7.5 uses – that (A,x) is contained in a cone $|z''| \leqslant C|z'|$ and that the projection $A \cap (\Delta' \times \Delta'') \to \Delta'$ is a ramified covering with finitely many sheets – is the Local parametrization theorem II-(4.19) (p. 95), whose conclusion literally contains "$A \cap (\Delta' \times \Delta'')$ is contained in a cone $|z''| \leqslant C|z'|$".
- **Correction / repair:** Replace "Th. II.3.19" by "Th. II.4.19".

CIII-M30. Proof of Lemma 7.10: missing normalisation ε^{-1} in the radial convolution

- **Type:** mathematical error.
- **Precise location:** printed p. 170, proof of Lemma 7.10, first sentence.
- **Printed text:** A radial convolution $\alpha_\varepsilon(z) = \int_{\mathbb{R}} \rho(t/\varepsilon)\, \alpha(e^t z)\, dt$ produces a smooth form with the same properties as α and $\lim_{\varepsilon \to 0} \alpha_\varepsilon = \alpha$.
- **Issue:** With $\int_{\mathbb{R}} \rho = 1$ one has $\int_{\mathbb{R}} \rho(t/\varepsilon)\, dt = \varepsilon$, so $\alpha_\varepsilon \sim \varepsilon\alpha \to 0$ and not α. The book's own convention (Chapter I, §2) is $\rho_\varepsilon(x) = \varepsilon^{-m}\rho(x/\varepsilon)$, here $\rho_\varepsilon(t) = \varepsilon^{-1}\rho(t/\varepsilon)$.
- **Correction / repair:** Replace $\rho(t/\varepsilon)$ by $\rho_\varepsilon(t) = \varepsilon^{-1}\rho(t/\varepsilon)$.

CIII-M31. §7: summation should start at $k = 0$ in the expansion of $\pi_\star\omega_Y^{N+p}$

- **Type:** mathematical error.
- **Precise location:** printed p. 171, construction of the concurrent slicing, display for $\pi_\star\omega_Y^{N+p}$.
- **Printed text:** $\pi_\star\omega_Y^{N+p} = \sum_{1\leqslant k\leqslant p}\binom{N+p}{k}\beta^k \wedge \pi_\star(\sigma^\star\omega_G^{N+p-k})$.
- **Issue:** Expanding $\omega_Y^{N+p} = (\sigma^\star\omega_G + \pi^\star\beta)^{N+p}$ and applying the projection formula, the surviving terms are exactly those with $0 \leqslant k \leqslant p$: $\pi_\star$ lowers the bidegree by (N, N), so $\pi_\star(\sigma^\star\omega_G^{N+p-k})$ has bidegree $(p-k, p-k)$ and vanishes for $k > p$, while the term $k = 0$ is present and is precisely the one producing the leading multiple of $(dd^c \log|z|)^p$. The very next display in the text correctly sums over $0 \leqslant k \leqslant p$.
- **Correction / repair:** Replace $\sum_{1\leqslant k\leqslant p}$ by $\sum_{0\leqslant k\leqslant p}$.

CIII-M32. Proof of Th. 7.13: "Lemma 7.11" should be "Lemma 7.10"

- **Type:** cross-reference error.
- **Precise location:** printed p. 173, first sentence (end of part a) of the proof of Th. 7.13).
- **Printed text:** However, both sides are unitary and homothety invariant (p, p)-forms with Lelong number 1 at the origin, so they must coincide by Lemma 7.11.
- **Issue:** (7.11) is a Corollary (Crofton's formula, p. 170), which is the statement being proved here, so quoting it would be circular. The result invoked – a closed positive (p, p)-form on $\mathbb{C}^n \setminus \{0\}$ invariant under $U(n)$ and under homotheties equals $\lambda(dd^c \log|z|)^p$ – is Lemma (7.10), p. 169.
- **Correction / repair:** Replace "Lemma 7.11" by "Lemma 7.10".

CIII-M33. (8.6): the constants are $\lambda_{j,k}$, printed $\gamma_{j,k}$

- **Type:** notation error.
- **Precise location:** printed p. 174, (8.6) Generalization, line following the displayed weight function.
- **Printed text:** where $F_{j,k}$ are holomorphic functions on $X \times Y$ and where $\gamma_{j,k}$ are positive real constants; in this case e^φ is Hölder continuous of exponent $\gamma = \min\{\lambda_{j,k}, 1\}$.
- **Issue:** The displayed weight is $\varphi(x, y) = \max_j \log\big(\sum_k |F_{j,k}(x, y)|^{\lambda_{j,k}}\big)$, so the constants to be introduced are the $\lambda_{j,k}$; the symbol $\gamma_{j,k}$ appears nowhere else, and γ is immediately used for the Hölder exponent $\min\{\lambda_{j,k}, 1\}$.
- **Correction / repair:** Replace "where $\gamma_{j,k}$ are positive real constants" by "where $\lambda_{j,k}$ are positive real constants".

CIII-M34. Proof of Th. 8.4: the normalisation must be restricted to $\operatorname{Supp} T$

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 175, Proof of the Semicontinuity Theorem 8.4, first paragraph and the display following it.
- **Printed text:** After addition of a constant to φ, we may also assume that there exists a compact subset $K \subset X$ such that $\{(x, y) \in X \times Y\,;\, \varphi(x, y) \leqslant 0\} \subset K \times Y$.
- **Issue:** The only hypothesis available is (8.1), which gives $\{(x, y) \in \operatorname{Supp} T \times L\,;\, \varphi(x, y) \leqslant R(L)\} \Subset X \times Y$ for $L \subset Y$ compact; nothing controls φ off $\operatorname{Supp} T$. For instance $X = \mathbb{D} \times \mathbb{C}$, $\varphi(x, y) = \log|x_1|$ and $T = \delta_0$ satisfy (8.1), yet $\{\varphi \leqslant c\}$ is never contained in $K \times Y$ with $K \Subset X$. Since all subsequent integrals carry T, the restricted statement is what is used and suffices (shrink Y to a ball with compact closure and add the constant $-R(\overline{Y})$).

- **Correction / repair:** Replace $\{(x,y)\in X\times Y\,;\,\varphi(x,y)\leqslant 0\}\subset K\times Y$ by $\{(x,y)\in \operatorname{Supp} T\times Y\,;\,\varphi(x,y)\leqslant 0\}\subset K\times Y$.

CIII-M35. Proof of Th. 8.4: the test form h has bidegree (m,m), not $(n-1,n-1)$

- **Type:** mathematical error.
- **Precise location:** printed p. 176, first step of the proof of Th. 8.4, sentence introducing the test form h.
- **Printed text:** For all $(n-1,n-1)$-form h of class C^∞ with compact support in $Y\times H$, we get $\langle dd^cV,h\rangle = \langle V, dd^ch\rangle$.
- **Issue:** V is a function on $Y\times H$ with Y a ball in $\mathbb{C}^m$ and $H\subset\mathbb{C}$ a half-plane, so $\dim_{\mathbb{C}}(Y\times H)=m+1$ and a test form paired with the $(1,1)$-current dd^cV must have bidegree (m,m). The subsequent integral over $X\times Y\times H$ confirms this: $T\wedge\chi(\widetilde{\varphi})(dd^c\widetilde{\varphi})^p$ has bidegree (n,n) and $\dim_{\mathbb{C}}(X\times Y\times H)=n+m+1$, so dd^ch must have bidegree $(m+1,m+1)$. The dimension n of X plays no role here.
- **Correction / repair:** Replace "$(n-1,n-1)$-form h" by "(m,m)-form h".

CIII-M36. Proof of Th. 8.4: "Th. 3.5" should be "Cor. 3.6"

- **Type:** cross-reference error.
- **Precise location:** printed p. 177, first sentence (end of the first step of the proof of Th. 8.4), just before Prop. 8.8.
- **Printed text:** V is continuous on $Y\times H$ because $T\wedge(dd^c\widetilde{\varphi}_{y,z})^p$ is weakly continuous in the variables (y,z) by Th. 3.5.
- **Issue:** (3.5) is a Remark (p. 146) giving the Chern-Levine-Nirenberg bound $\|\Theta\|_L\leqslant C_{K,L}\|T\|_K\prod\|u_j\|_{L^\infty(K)}\cdots$ for products with mixed $(1,1)$-forms; it does not give continuity in a parameter. The result used is Corollary (3.6) (p. 147): if $u_j^k\to u_j$ locally uniformly then $dd^cu_1^k\wedge\cdots\wedge T_k\to dd^cu_1\wedge\cdots\wedge T$ weakly. It applies here because $\widetilde{\varphi}(\cdot,y,z)=\max\{\varphi(\cdot,y),\operatorname{Re}z\}$ depends on (y,z) continuously, locally uniformly in x.
- **Correction / repair:** Replace "Th. 3.5" by "Cor. 3.6".

CIII-M37. Proof of Th. 8.4: "Kiselman's theorem 1.7.8" should be "1.7.5"

- **Type:** cross-reference error.
- **Precise location:** printed p. 177, second step of the proof of Th. 8.4, sentence introducing the Legendre transform U_a.
- **Printed text:** By Kiselman's theorem 1.7.8, the Legendre transform $U_a(y)=\inf_{r<-1}\{\rho(y)+V(y,r)-ar\}$ is locally plurisubharmonic or $\equiv-\infty$ on Y.
- **Issue:** Chapter I §7 contains no item (7.8): it runs (7.7) Theorem, p. 58, then (7.9) Formula, p. 58. Kiselman's minimum principle is Theorem I-(7.5) ([Kiselman 1978], p. 57): for v plurisubharmonic on a pseudoconvex $\Omega\subset\mathbb{C}^p\times\mathbb{C}^n$ with convex tube slices and independent of $\operatorname{Im}z$, the function $\inf_z v(\zeta,z)$ is plurisubharmonic or locally $\equiv-\infty$. That is exactly what is applied here.
- **Correction / repair:** Replace "Kiselman's theorem 1.7.8" by "Kiselman's theorem 1.7.5".

CIII-M38. Lemma 8.12: undefined f in the Hölder hypothesis

- **Type:** notation error.
- **Precise location:** printed p. 178, statement of Lemma 8.12, displayed hypothesis.
- **Printed text:** Assume that $e^{\varphi(x,y)}$ is locally Hölder continuous in y and that $|f(x,y_1)-f(x,y_2)|\leqslant M|y_1-y_2|^\gamma$ for all $(x,y_1,y_2)\in K\times L\times L$.

- **Issue:** No function f occurs in Lemma 8.12; the symbol is a leftover from Definition (8.3), where f was a generic function. The estimate actually used in the proof is written there as $|e^{\varphi_y(x)} - e^{\varphi_{y_0}(x)}| \leqslant M|y-y_0|^\gamma$, i.e. the Hölder estimate for e^φ.

- **Correction / repair:** Replace $|f(x,y_1) - f(x,y_2)| \leqslant M|y_1 - y_2|^\gamma$ by $|e^{\varphi(x,y_1)} - e^{\varphi(x,y_2)}| \leqslant M|y_1-y_2|^\gamma$.

CIII-M39. Proposition 8.14: unresolved reference "Cor. 8.?.?"

- **Type:** cross-reference error.

- **Precise location:** printed p. 179, fourth step of the proof of Th. 8.4, sentence preceding Prop. 8.14.

- **Printed text:** it will be proved in Chapter 8, see Cor. 8.?.?.

- **Issue:** The reference was never resolved. The result stated in Prop. 8.14 – the set of points near which e^{-u} is not integrable is an analytic subset – is Corollary VIII-(7.7) (printed p. 384), deduced there from the Hörmander-Bombieri-Skoda theorem VIII-(7.6).

- **Correction / repair:** Replace 'it will be proved in Chapter 8, see Cor. 8.?.?' by 'it will be proved in Chapter VIII, see Cor. VIII-7.7' (Corollary (7.7), p. 384).

CIII-M40. Proof of Lemma 8.12: "Th. 8.12" should be "Lemma 8.12"

- **Type:** cross-reference error.

- **Precise location:** printed p. 179, last sentence of the proof of Lemma 8.12 (third step).

- **Printed text:** one can then choose $r = \gamma \log|y-y_0| + \log(2eM/\varepsilon)$, and by (8.13) this yields the inequality asserted in Th. 8.12.

- **Issue:** (8.12) is a Lemma, not a Theorem; it is cited correctly as "Lemma 8.12" ten lines below on the same page.

- **Correction / repair:** Replace "Th. 8.12" by "Lemma 8.12".

CIII-M41. Proof of Prop. 8.16: exponent n should be p

- **Type:** mathematical error.

- **Precise location:** printed p. 180, proof of Prop. 8.16, display following "By a linear change of coordinates, we see that".

- **Printed text:** $\mathbb{1}_A\Theta \wedge \Big(dd^c \sum_{1\leqslant j\leqslant n} \lambda_j|u_j|^2\Big)^n \geqslant 0.$

- **Issue:** $\Theta = T - m_A[A]$ has bidimension (p,p), i.e. bidegree $(n-p, n-p)$, so it can only be wedged with a (p,p)-form; with the exponent n the product has bidegree $(2n-p, 2n-p)$ and vanishes identically when $p < n$, so the inequality is empty and the argument collapses. The preceding lines establish exactly that the measure $\mathbb{1}_A\Theta \wedge \beta^p$ is positive, and the next display, obtained by taking $\lambda_1 = \cdots = \lambda_p = 1$ and letting the other $\lambda_j \to 0$, is the (p,p)-statement $\mathbb{1}_A\Theta \wedge \mathrm{i}\, du_1 \wedge d\overline{u}_1 \wedge \cdots \wedge \mathrm{i}\, du_p \wedge d\overline{u}_p \geqslant 0$.

- **Correction / repair:** Replace $\big(dd^c \sum_{1\leqslant j\leqslant n} \lambda_j|u_j|^2\big)^n$ by $\big(dd^c \sum_{1\leqslant j\leqslant n} \lambda_j|u_j|^2\big)^p$.

CIII-M42. Proof of Prop. 8.16: only one factor i in the positive (p,p)-form

- **Type:** notation error.

- **Precise location:** printed p. 180, proof of Prop. 8.16, last display of the page.

- **Printed text:** $\mathbb{1}_A\Theta \wedge \mathrm{i}\, du_1 \wedge d\overline{u}_1 \wedge \ldots \wedge du_p \wedge d\overline{u}_p \geqslant 0$.

- **Issue:** The limit of $\big(dd^c \sum \lambda_j|u_j|^2\big)^p$ as $\lambda_1 = \cdots = \lambda_p = 1$ and $\lambda_j \to 0$ for $j > p$ is a positive multiple of $(\mathrm{i}\, du_1 \wedge d\overline{u}_1) \wedge \cdots \wedge (\mathrm{i}\, du_p \wedge d\overline{u}_p)$, which carries i^p; with a single i the form is not real for $p \geqslant 2$ and the inequality is meaningless. The book's own convention elsewhere (e.g. $\tau(z) = \mathrm{i}\, dz_1 \wedge d\overline{z}_1 \wedge \cdots \wedge \mathrm{i}\, dz_n \wedge d\overline{z}_n$) puts one i in front of each pair.

- **Correction / repair:** Replace $\mathrm{i}\, du_1 \wedge d\overline{u}_1 \wedge \ldots \wedge du_p \wedge d\overline{u}_p$ by $\mathrm{i}\, du_1 \wedge d\overline{u}_1 \wedge \ldots \wedge \mathrm{i}\, du_p \wedge d\overline{u}_p$.

CIII-M43. (9.2) Example: "Remmert's theorem 2.7.8" should be "2.8.8"

- **Type:** cross-reference error.
- **Precise location:** printed p. 182, (9.2) Example, second sentence.
- **Printed text:** We know by Remmert's theorem 2.7.8 that $F(A)$ is an analytic set in Y.
- **Issue:** II-(7.8) (p. 113) is a Corollary in §7 "Normal spaces and normalization" and has nothing to do with proper images. Remmert's proper mapping theorem ("Let $F : X \to Y$ be a proper holomorphic map. Then $F(X)$ is an analytic subset of Y") is II-(8.8), p. 118.
- **Correction / repair:** Replace "Remmert's theorem 2.7.8" by "Remmert's theorem 2.8.8".

CIII-M44. §9: the preimage must be taken inside $\operatorname{Supp} T$

- **Type:** mathematical error.
- **Precise location:** printed p. 182, paragraph preceding Prop. 9.3, displayed identity.
- **Printed text:** $\operatorname{Supp} T \cap \{\psi \circ F < R\} = F^{-1}\big(F(\operatorname{Supp} T) \cap \{\psi < R\}\big)$.
- **Issue:** The right-hand side contains every $x \in X$ with $F(x) \in F(\operatorname{Supp} T)$ and $\psi(F(x)) < R$, whether or not $x \in \operatorname{Supp} T$. For F constant and T compactly supported the left-hand side is $\operatorname{Supp} T$ while the right-hand side is all of X. Only "$\subset$" holds as printed. The compactness deduced from the properness of $F_{|\operatorname{Supp} T}$ requires the preimage taken inside $\operatorname{Supp} T$.
- **Correction / repair:** Replace F^{-1} by $(F_{|\operatorname{Supp} T})^{-1}$: $\operatorname{Supp} T \cap \{\psi \circ F < R\} = (F_{|\operatorname{Supp} T})^{-1}\big(F(\operatorname{Supp} T) \cap \{\psi < R\}\big)$.

CIII-M45. After Def. 9.5: "Cor. 4.10" should be "Cor. 4.11"

- **Type:** cross-reference error.
- **Precise location:** printed p. 183, paragraph following Definition (9.5), first sentence.
- **Printed text:** Observe that $(dd^c \log |F - y|)^p$ is well defined thanks to Cor. 4.10.
- **Issue:** As the introductory sentence on p. 156 says, (4.10) is the case of Th. 4.5 with "T arbitrary and $q = 1$" and (4.11) the case "$T = 1$ and q arbitrary". Here $q = p$ potentials $u_1 = \cdots = u_p = \log |F - y|$ with $L(u_j) = F^{-1}(y)$ of codimension $\geqslant p$ are involved, which is exactly the hypothesis of Cor. 4.11; Cor. 4.10 yields the product only after an induction on the successive supports. The identical product in the proof of King's formula (8.18), p. 181, is correctly justified by "Cor. 4.11".
- **Correction / repair:** Replace "Cor. 4.10" by "Cor. 4.11".

CIII-M46. (9.7 b): $\log |F_{|x+S} - z|$ should be $\log |F_{|x+S} - y|$

- **Type:** notation error.
- **Precise location:** printed p. 184, formula (9.7 b); printed p. 185, the display at the top and the sentence "so $S \mapsto \nu((dd^c \log |F_{|x+S} - z|)^p, x)$ must be constant".
- **Printed text:** $\mu_p(F, x) = \int_{S \in G(p,n) \setminus A} \nu\big((dd^c \log |F_{|x+S} - z|)^p, x\big)\, dv(S)$.
- **Issue:** The whole section works with the weight $\log |F - y|$ where $y = F(x)$ is the target point (cf. (9.4), Def. (9.5), (9.7 a)), while z denotes the variable of the parametrization $g_S : \mathbb{C}^p \to S$. This is confirmed on

p. 185, where the same quantity is written $\nu\big((dd^c\log|F_{|x+S}-z|)^p,x\big)=\nu\big([\mathbb{C}^p],\log|F\circ g_S(z)-y|\big)$, with y on the right-hand side, and where $\varphi(z,S)=\log|F\circ g_S(z)-y|$.

- **Correction / repair:** Replace $\log|F_{|x+S}-z|$ by $\log|F_{|x+S}-y|$ in (9.7 b) and in the two occurrences on p. 185.

CIII-M47. (9.6) Example: missing brackets in $\nu(F(V_x),y)$

- **Type:** notation error.
- **Precise location:** printed p. 184, (9.6) Example, last term of the first display.
- **Printed text:** $\mu_n(F,x)=\int_{\{x\}}\big(dd^c\log|F-y|\big)^n=\nu\big([V_x],\log|F-y|\big)=\nu\big(F_\star[V_x],y\big)=s\,\nu\big(F(V_x),y\big)$.
- **Issue:** The first argument of ν is a current: since $F_\star[V_x]=s\,[F(V_x)]$, the last term is $s\,\nu([F(V_x)],y)$. As printed, ν is applied to the analytic set $F(V_x)$, contrary to the notation used everywhere else in the chapter (e.g. $\nu([A],x)=m$ in Th. 7.7).
- **Correction / repair:** Replace $s\,\nu\big(F(V_x),y\big)$ by $s\,\nu\big([F(V_x)],y\big)$.

CIII-M48. (9.8) Example: "Lemma II.3.10" should be "Lemma II.4.10"

- **Type:** cross-reference error.
- **Precise location:** printed p. 185, (9.8) Example, bracketed sentence at the end.
- **Printed text:** use Lemma II.3.10 to show that the s_j values of z_j lie near 0 when $(a_1,\ldots,a_p)$ are small.
- **Issue:** II-(3.10) (p. 87) is a displayed formula defining a morphism of sheaves and is not a lemma. The statement used is Lemma II-(4.10) (p. 93): "If $w\in\mathbb{C}$ is a root of $w^d+a_1w^{d-1}+\cdots+a_d=0$, then $|w|\leqslant 2\max|a_j|^{1/j}$", i.e. exactly that the roots are small when the coefficients are small.
- **Correction / repair:** Replace "Lemma II.3.10" by "Lemma II.4.10".

CIII-M49. Proof of (10.1): C_1 and C_2 interchanged in the bounds for $|z-z_0|$

- **Type:** mathematical error.
- **Precise location:** printed p. 190, proof of the Schwarz lemma (10.1), first line of the three-line display beginning "$|Q(z-z_0)|=e^t$".
- **Printed text:** $|Q(z-z_0)|=e^t\implies e^{t/\delta}/C_1^{1/\delta}\leqslant|z-z_0|\leqslant e^{t/\delta}/C_2^{1/\delta}$,.
- **Issue:** By (10.2), $C_1|z|^\delta\leqslant|Q(z)|\leqslant C_2|z|^\delta$ with $C_1\leqslant C_2$, so $|Q(z-z_0)|=e^t$ gives $C_1|z-z_0|^\delta\leqslant e^t\leqslant C_2|z-z_0|^\delta$, i.e. $(e^t/C_2)^{1/\delta}\leqslant|z-z_0|\leqslant(e^t/C_1)^{1/\delta}$. As printed the chain reads $a\leqslant|z-z_0|\leqslant b$ with $a\geqslant b$, which is impossible unless $C_1=C_2$. The sequel uses the correct version: it is the upper bound $|z-z_0|\leqslant e^{t/\delta}/C_1^{1/\delta}$ that gives $|z|\leqslant r+e^{t/\delta}/C_1^{1/\delta}$ and hence $|P(z)-Q(z-z_0)|\leqslant C_4r(r+e^{t/\delta})^{\delta-1}$, in accordance with $\{\psi=s\}\subset B(0,r+(e^s/C_1)^{1/\delta})$ on p. 189.
- **Correction / repair:** Replace the conclusion by $e^{t/\delta}/C_2^{1/\delta}\leqslant|z-z_0|\leqslant e^{t/\delta}/C_1^{1/\delta}$.

CIII-M50. Theorem 10.9: $K[f_1,\ldots,f_N]$ should be $K[F_1,\ldots,F_N]$

- **Type:** notation error.
- **Precise location:** printed p. 192, statement of Th. 10.9, third sentence.
- **Printed text:** Suppose that the ring $K[f_1,\ldots,f_N]$ is stable under all derivations $d/dz_1,\ldots,d/dz_n$.
- **Issue:** The functions introduced in the statement are $F_1,\ldots,F_N$, and the conclusion on p. 193 again speaks of "the poles of the F_j's" and of $(F_1(z),\ldots,F_N(z))\in K^N$; the lowercase symbols $f_1,\ldots,f_N$ are defined nowhere in §10.

- **Correction / repair:** Replace $K[f_1, \dots, f_N]$ by $K[F_1, \dots, F_N]$.

Typographical and editorial corrections

- **CIII-T01.** printed p. 129, Chapter III introduction, sentence beginning "We develope here a differential geometric approach". *Printed:* We develope here a differential geometric approach to intersection theory through a detailed study of wedge products of closed positive currents (Monge-Ampère operators). *Issue:* "develope" is not an English spelling (it is the French/archaic form). *Correction:* Replace "We develope here" by "We develop here".

- **CIII-T02.** printed p. 131, last display of the page, after "A diagonalization of h shows that every positive $(1,1)$-form u can be written". *Printed:* $u = \sum_{1\leqslant j\leqslant r} \mathrm{i}\gamma_j \wedge \overline{\gamma}_j\,, \qquad \gamma \in V^\star, \qquad r = \text{rank of } u,$. *Issue:* The forms occurring in the sum carry the index j; the symbol γ without index is never defined. *Correction:* Replace $\gamma \in V^\star$ by $\gamma_j \in V^\star$ $(1 \leqslant j \leqslant r)$.

- **CIII-T03.** printed p. 135, § 1.18, sentence beginning "Then $d''S = \Theta^{0,2} = 0$, and the Dolbeault-Grothendieck lemma". *Printed:* Then $d''S = \Theta^{0,2} = 0$, and the Dolbeault-Grothendieck lemma shows that $S^{0,1} = d''v$ on some neighborhood $\Omega \subset \Omega_0$, with $v \in \mathcal{D}'(\Omega, \mathbb{C})$. *Issue:* $d''S = d''S^{1,0} + d''S^{0,1}$ is not of pure bidegree $(0,2)$ and does not vanish: its $(1,1)$-component $d''S^{1,0}$ equals $\Theta^{1,1}$, which is the very object under study. Only the $(0,2)$-component vanishes, and it is $d''S^{0,1} = \Theta^{0,2} = 0$ that the Dolbeault-Grothendieck lemma is applied to. *Correction:* Replace $d''S = \Theta^{0,2} = 0$ by $d''S^{0,1} = \Theta^{0,2} = 0$.

- **CIII-T04.** printed p. 137, running head. *Printed:* § 2. Closed Positive Currents 137. *Issue:* Page 137 carries only § 1 material (the end of the proof of Wirtinger's inequality (1.25) and Theorem (1.26)); § 2 opens on p. 138. The running head anticipates the section heading by one page; the neighbouring recto pages 133, 135, 143, 149, 151, 155, 157 all carry the correct section. *Correction:* The running head of p. 137 should read "§ 1. Basic Concepts of Positivity".

- **CIII-T05.** printed p. 138, proof of Lemma (2.2), and printed p. 150, proof of Prop. (4.1). *Printed:* we can achieve $u \leqslant 0$ by shrinking Ω_0 and subtracting a constant to u [p. 138]; By subtracting a constant to u, we may assume $u \leqslant -\varepsilon$ on $\overline{\Omega}$ [p. 150]. *Issue:* Gallicism: in English a constant is subtracted *from* a function. *Correction:* Replace "subtracting a constant to u" by "subtracting a constant from u" on both pages.

- **CIII-T06.** printed p. 139, proof of Theorem (2.3), case $p = 1$, line following the display $\langle T, \psi\, \mathrm{i}d'd''v_k^2\rangle = \langle T, v_k^2\, \mathrm{i}d'd''\psi\rangle$. *Printed:* $\langle T, \psi\, \mathrm{i}d'd''v_k^2\rangle = \langle T, v_k^2\, \mathrm{i}d'd''\psi\rangle \leqslant C \int_{\Omega\smallsetminus E} \|T\| < +\infty$ where C is a bound for the coefficients of ψ. *Issue:* The estimate uses $0 \leqslant v_k^2 \leqslant 1$ together with a bound for the coefficients of the $(1,1)$-form $\mathrm{i}d'd''\psi$; a bound for ψ itself yields nothing. *Correction:* Replace "a bound for the coefficients of ψ" by "a bound for the coefficients of $\mathrm{i}d'd''\psi$".

- **CIII-T07.** printed p. 140, proof of Lemma (2.6), first sentence, definition of the basis forms β_s. *Printed:* consisting of decomposable forms $\beta_s = \mathrm{i}\beta_{s,1} \wedge \overline{\beta}_{s,1} \wedge \ldots \wedge \beta_{s,p} \wedge \overline{\beta}_{s,p}$ (cf. Lemma 1.4). *Correction:* Replace by $\beta_s = \mathrm{i}\beta_{s,1} \wedge \overline{\beta}_{s,1} \wedge \ldots \wedge \mathrm{i}\beta_{s,p} \wedge \overline{\beta}_{s,p}$, as in Lemma (1.4).

- **CIII-T08.** printed p. 148 ("Proof of Theorem 3.7 (end).."), p. 153 ("Proof of step 1.."), p. 154 ("Proof of Step 2..") *Printed:* Proof of Theorem 3.7 (end).. Proof of step 1.. Proof of Step 2.. *Issue:* Each of the three proof headings ends with two full stops (the period typed in the heading is duplicated by the one supplied by the proof macro). The heading on p. 153 also writes "step 1" in lower case, whereas p. 154 writes "Step 2". *Correction:* Delete the duplicated full stop in the three headings and capitalize "Step 1" on p. 153.

- **CIII-T09.** printed p. 152, displayed definition in Corollary (4.3); p. 154, the two lines of the display opening the proof of Step 2; p. 156, the two displays at the top of the page. *Printed:* $dd^cu_1 \wedge dd^cu_2 \wedge \ldots \wedge dd^cu_q \wedge T = dd^c(u_1 dd^cu_2 \ldots \wedge dd^cu_q \wedge T)$. *Correction:* Insert the missing $\wedge$ on each side of the ellipsis in these displays.

- **CIII-T10.** printed p. 155, proof of Proposition (4.9), first display, left-hand side. *Printed:* $\int_{B'\times B''} \chi_1 \ldots \chi_q\, u_1 \wedge dd^cu_2 \wedge \ldots \wedge dd^cu_q \wedge T \wedge \alpha$. *Issue:* u_1 is a function, so the wedge sign between u_1 and dd^cu_2 is spurious; the right-hand side of the same display correctly reads $\chi_1 \ldots \chi_q\, u_1^k dd^cu_2^k \wedge \ldots \wedge dd^cu_q^k \wedge T \wedge \alpha$.

Correction: Replace $u_1 \wedge dd^c u_2$ by $u_1\, dd^c u_2$.

- **CIII-T11.** printed p. 158, paragraph following Definition (5.4). *Printed:* We leave the reader consider by himself this more general situation and extend our statements by the $\max\{\varphi, s\}$ technique. *Issue:* Ungrammatical: "leave" requires "to" ("leave it to the reader to consider"), or the verb should be "let". *Correction:* Replace by "We leave it to the reader to consider this more general situation and to extend our statements by the $\max\{\varphi, s\}$ technique".

- **CIII-T12.** printed p. 162, proof of Prop. 6.4, third sentence. *Printed:* Let h be a smooth function h with compact support near $S(r)$. *Issue:* The letter h is repeated. *Correction:* Delete the second "h": "Let h be a smooth function with compact support near $S(r)$."

- **CIII-T13.** printed p. 162, proof of Prop. 6.4, first sentence. *Printed:* Write $\max\{t, r\} = \lim_{k\to+\infty} \chi_k(t)$ where χ is a decreasing sequence of smooth convex functions with $\chi_k(t) = r$ for $t \leqslant r - 1/k$, $\chi_k(t) = t$ for $t \geqslant r + 1/k$. *Issue:* The object introduced is the sequence (χ_k); the symbol χ alone is not defined and is not used afterwards. *Correction:* Replace "where χ is a decreasing sequence" by "where (χ_k) is a decreasing sequence".

- **CIII-T14.** printed p. 164, statement of Cor. 6.8, second line. *Printed:* $r \mapsto \mu_r(V)$ is a convex increasing function of r and the lelong number $\nu(dd^c V, \varphi)$ is given by. *Issue:* "lelong" is a proper name and is capitalised everywhere else in the book. *Correction:* Replace "lelong number" by "Lelong number".

- **CIII-T15.** printed p. 165, §6.10 (Special case), sentence "In dimension $n = 1$, ..." *Printed:* In dimension $n = 1$, we have $\frac{1}{2\pi}\Delta \log f = \sum m_j \delta_{a_j}$. *Issue:* The Lelong-Poincare formula reads $\frac{1}{2\pi}\Delta \log|f| = \sum m_j \delta_{a_j}$; the same trace is written correctly as $\frac{1}{2\pi}\Delta \log|f|$ two lines above, and $\log f$ is not defined for a function with zeros. *Correction:* Replace $\log f$ by $\log|f|$.

- **CIII-T16.** printed p. 169, proof of the second comparison theorem (7.8), third sentence. *Printed:* Our assumption implies that $w_{j,c}$ coincides with $v_j - c$ on a neighborhood $\operatorname{Supp} T \cap \{\varphi < r_0\}$ of $\operatorname{Supp} T \cap \{\varphi < -\infty\}$. *Issue:* $\{\varphi < -\infty\}$ is empty. The set meant is the polar set $\varphi^{-1}(-\infty) = \{\varphi = -\infty\}$, exactly as in the hypothesis of (7.8) ("$u_j = -\infty$ on $\operatorname{Supp} T \cap \varphi^{-1}(-\infty)$"). *Correction:* Replace $\{\varphi < -\infty\}$ by $\varphi^{-1}(-\infty)$.

- **CIII-T17.** printed p. 171, second line, recollections on slicing theory. *Printed:* in particular, closed positive currents are locally flats. *Issue:* "flat" is an adjective here ("locally flat current" was defined in the preceding sentence) and takes no plural mark. *Correction:* Replace "locally flats" by "locally flat".

- **CIII-T18.** printed p. 173, opening paragraph of §8, sentences containing (8.1). *Printed:* We assume that φ is semi-exhaustive with respect to $\operatorname{Supp} T$, i.e. that for every compact subset $L \subset Y$ there exists $R = R(L) < 0$ such that (8.1) $\{(x, y) \in \operatorname{Supp} T \times L\,;\, \varphi(x, y) \leqslant R\} \Subset X \times Y$. Let T be a closed positive current of bidimension (p, p) on X. *Issue:* The reader meets $\operatorname{Supp} T$ in the hypothesis and in (8.1) before T has been defined; the definition of T comes only in the next sentence. *Correction:* Move the sentence "Let T be a closed positive current of bidimension (p, p) on X" before the sentence containing (8.1).

- **CIII-T19.** printed pp. 174-175, end of (8.6) Generalization, sentence spanning the page break. *Printed:* we see that the upperlevel sets for Kiselman's numbers $\nu(T, x, \lambda)$ are analytic in X (a result first proved in [Kiselman 1986]. More generally, set ... *Issue:* The opening parenthesis before "a result first proved" is never closed, so the parenthetical runs into the following sentence. *Correction:* Insert the closing parenthesis: "... (a result first proved in [Kiselman 1986])."

- **CIII-T20.** printed p. 175, (8.6) Generalization, paragraph following the definition of $\nu(T, y, u, \lambda)$. *Printed:* do not depend on the selection of the jet representives and are therefore canonically defined on S_k. *Issue:* Misspelling of "representatives". *Correction:* Replace "representives" by "representatives".

- **CIII-T21.** printed p. 175, Proof of the Semicontinuity Theorem 8.4, second paragraph. *Printed:* We can add a smooth strictly plurisubharmonic function on $X \times Y$ to make φ strictly plurisuharmonic. *Issue:* Misspelling: the letter b is missing. *Correction:* Replace "plurisuharmonic" by "plurisubharmonic".

- **CIII-T22.** printed p. 178, last line of the proof of Th. 8.11 (second step). *Printed:* The function $w = \sum_{k=1}^{+\infty} 2^{-k} w_k$ satifies our requirements. *Issue:* Misspelling of “satisfies”. *Correction:* Replace “satifies” by “satisfies”.

- **CIII-T23.** printed p. 179, heading “Proof of Theorem 8.4 (end)..”; printed p. 181, headings “Proof of uniqueness..” and “Proof of existence..” *Printed:* Proof of Theorem 8.4 (end).. / Proof of uniqueness.. / Proof of existence.. *Issue:* Each heading ends with two periods (the period typed in the optional argument plus the one supplied by the proof environment). *Correction:* Delete the second period in each of the three headings.

- **CIII-T24.** printed p. 181, proof of uniqueness in Siu’s decomposition formula, parenthesis “more precisely, ...” *Printed:* $\nu(T, x) = \lambda_j$ at every regular point of A_j which does not belong to any intersection $A_j \cup A_k$, $k \neq j$ or to $\bigcup E_c(R)$. *Issue:* The word “intersection” shows that $A_j \cap A_k$ is meant: the point x must avoid the other components. As printed the condition $x \notin A_j \cup A_k$ excludes every point of A_j and the assertion is vacuous. *Correction:* Replace $A_j \cup A_k$ by $A_j \cap A_k$.

- **CIII-T25.** printed p. 181, paragraph following the proof of Siu’s decomposition formula, before King’s formula. *Printed:* a typical case is the case of a bidimension $(n-1, n-1)$ current $T = dd^c u$ with $u = \log(|F_j|^{\gamma_1} + \ldots |F_N|^{\gamma_N})$ and $F_j \in \mathcal{O}(X)$. *Issue:* The index of the first summand does not match its exponent; the sum is $\sum_j |F_j|^{\gamma_j}$, as in King’s formula (8.18) on the same page. *Correction:* Replace $|F_j|^{\gamma_1}$ by $|F_1|^{\gamma_1}$.

- **CIII-T26.** printed p. 181, statement label of Siu’s decomposition formula (compare the label of Prop. (8.16) on p. 180). *Printed:* (8.16) Siu’s decomposition formula. If T is a closed positive current of bidimension (p, p), there is a unique decomposition of T as a (possibly finite) weakly convergent series. *Correction:* Renumber Siu’s decomposition formula (p. 181) as (8.17), and change “Siu’s formula 8.16” on p. 182 to “Siu’s formula 8.17”.

- **CIII-T27.** printed p. 182, (9.2) Example, last two lines. *Printed:* the restriction of α to $F(A)_{\mathrm{reg}}$ is zero, and therefore so is this the restriction of $F^\star\alpha$ to A_{reg}. *Issue:* The word “this” is superfluous and breaks the sentence. *Correction:* Delete “this”: “... and therefore so is the restriction of $F^\star\alpha$ to A_{reg}.”

- **CIII-T28.** printed p. 183, proof of Prop. 9.3, sentence following the displayed identity. *Printed:* This follows almost immediately from the adjunction formula (9.1) when ψ is smooth and when we write $\mathbb{1}_{\{\psi<R\}} = \lim \uparrow g_k$ for some sequence of smooth functions g_k. *Issue:* The displayed identity two lines above reads $\int_Y F_\star T \wedge \mathbb{1}_{\{\psi<r\}} (dd^c \psi_{\geqslant s})^p = \int_X T \wedge (\mathbb{1}_{\{\psi<r\}} \circ F)(dd^c \psi_{\geqslant s} \circ F)^p$ with $r < R$; it is $\mathbb{1}_{\{\psi<r\}}$ that has to be written as an increasing limit of smooth functions. *Correction:* Replace $\mathbb{1}_{\{\psi<R\}}$ by $\mathbb{1}_{\{\psi<r\}}$.

- **CIII-T29.** printed p. 183, parenthesis in the paragraph following Definition (9.5). *Printed:* (and also on X, since Lelong nombers do not depend on coordinates). *Issue:* “nombers” is a misspelling (French “nombres”) of “numbers”. *Correction:* Replace “Lelong nombers” by “Lelong numbers”.

- **CIII-T30.** printed p. 185, paragraph following Th. 9.9, second sentence. *Printed:* This inequality no longer holds if the summation is extended to all points $x \in \operatorname{Supp} T \cap F^{-1}(Y)$ and if this set contains positive dimensional connected components. *Issue:* $F^{-1}(Y)$ is all of X, so the set would be $\operatorname{Supp} T$; the set meant is the fibre $F^{-1}(y)$ over the point y occurring in Th. 9.9 and in the preceding sentence ($\nu(F_\star T, y) \geqslant \sum_{x \in I(y)} \nu(T, x)$). *Correction:* Replace $F^{-1}(Y)$ by $F^{-1}(y)$.

- **CIII-T31.** printed p. 186, proof of Th. 9.9, last sentence of Step 3. *Printed:* It is therefore sufficient to apply to following Proposition. *Issue:* “to” is printed for “the”. *Correction:* Replace “to apply to following Proposition” by “to apply the following Proposition”.

- **CIII-T32.** printed p. 186, proof of Th. 9.9, Step 1, third sentence. *Printed:* it has a fondamental system of relative open-closed neighborhoods. *Issue:* French spelling “fondamental” for English “fundamental” (the word is hyphenated “fon-damental” across the line break, which confirms the spelling). *Correction:* Replace “fondamental” by “fundamental”.

- **CIII-T33.** printed p. 189, proof of the Schwarz lemma (10.1), display describing the support of $\mu_{\psi,s}$. *Printed:* $\{\psi(z) = s\} = \{Q(z - z_0) = e^s\} \subset B\big(0, r + (e^s/C_1)^{1/\delta}\big)$. *Issue:* $\psi(z) = \log|Q(z - z_0)|$ and

$Q = (Q_1, \dots, Q_N)$ takes values in $\mathbb{C}^N$, so $\{\psi = s\} = \{|Q(z - z_0)| = e^s\}$; as printed a vector is equated with the real number e^s. *Correction:* Replace $\{Q(z - z_0) = e^s\}$ by $\{|Q(z - z_0)| = e^s\}$.

Chapter IV. Sheaf Cohomology and Spectral Sequences

Range checked: printed pp. 195–252.

Mathematical corrections, cross-references and proof clarifications

CIV-M01. p. 198: sheaves are defined in §II-1, not §II-2

- **Type:** cross-reference error.
- **Precise location:** printed p. 198, §2, opening sentence.
- **Printed text:** Let X be a topological space and let $\mathcal{A}$ be a sheaf of abelian groups on X (see § II-2 for the definition).
- **Issue:** Presheaves and sheaves of abelian groups are defined in Chapter II, § 1 'Presheaves and Sheaves' (Def. II-1.2 and Def. II-1.6, p. 66). Chapter II, § 2 (p. 79) is 'The Local Ring of Germs of Analytic Functions' and contains no definition of a sheaf.
- **Correction / repair:** Replace 'see § II-2 for the definition' by 'see § II-1 for the definition'.

CIV-M02. p. 201: the sheaf axioms are (II-1.4'), (II-1.4''), not (II-2.4'), (II-2.4'')

- **Type:** cross-reference error.
- **Precise location:** printed p. 201, §3.B, sentence following the display $\Omega \mapsto \mathcal{A}(S \cap \Omega)$.
- **Printed text:** with the obvious restriction maps satisfies axioms (II-2.4′) and (II-2.4′′), so it defines a sheaf on X which we denote by $\mathcal{A}^S$.
- **Issue:** The gluing axioms of a sheaf are (II-1.4′) and (II-1.4′′), displayed on p. 66 and used in Def. II-1.6. No labels (II-2.4′), (II-2.4′′) exist; (II-2.4) is the Weierstrass division formula $f = gq + R$ on p. 80.
- **Correction / repair:** Replace '(II-2.4′) and (II-2.4′′)' by '(II-1.4′) and (II-1.4′′)'.

CIV-M03. Proof of Prop. 4.2: read $v \in \mathcal{A}(V)$ for $v \in \mathcal{B}(V)$

- **Type:** notation error.
- **Precise location:** printed p. 202, proof of Proposition 4.2, first two sentences.
- **Printed text:** Proof. Let $f \in \mathcal{A}(U)$ be given. Consider the set of pairs (v, V) where v in $\mathcal{B}(V)$ is an extension of f on an open subset $V \supset U$.
- **Issue:** Proposition 4.2 involves the single sheaf $\mathcal{A}$; no sheaf $\mathcal{B}$ occurs in its statement or in its proof, and an extension of $f \in \mathcal{A}(U)$ is by definition a section of $\mathcal{A}$. (The letter $\mathcal{B}$ is carried over from the proof of Prop. 4.3 just below, where a second sheaf $\mathcal{B}$ does occur.)
- **Correction / repair:** Replace 'v in $\mathcal{B}(V)$' by '$v \in \mathcal{A}(V)$'.

CIV-M04. Proof of Prop. 5.11 b): 'Prop. 4.17' should be 'Th. 4.17'

- **Type:** cross-reference error.
- **Precise location:** printed p. 208, proof of Proposition 5.11 b), first sentence.
- **Printed text:** Let $(\psi_\alpha)_{\alpha \in I}$ be a partition of unity in $\mathcal{R}$ subordinate to $\mathcal{U}$ (Prop. 4.17).
- **Issue:** The existence of a partition subordinate to an open covering is '(4.17) Theorem' (p. 205); there is no Proposition 4.17 in Chapter IV.

- **Correction / repair:** Replace '(Prop. 4.17)' by '(Th. 4.17)'.

CIV-M05. (5.22): σ must be a permutation of $\{0, 1, \ldots, q\}$

- **Type:** mathematical error.
- **Precise location:** printed p. 211, §5.D, line following the display (5.22).
- **Printed text:** $c_{\alpha_{\sigma(0)}\ldots\alpha_{\sigma(q)}} = \varepsilon(\sigma)\, c_{\alpha_0\ldots\alpha_q}$ ... for any permutation σ of $\{1, \ldots, q\}$ of signature $\varepsilon(\sigma)$.
- **Issue:** A Čech q-cochain has the $q+1$ indices $\alpha_0, \ldots, \alpha_q$, and the displayed formula uses $\sigma(0)$; hence σ must run over the permutations of the $(q+1)$-element set $\{0, 1, \ldots, q\}$. As printed, $\sigma(0)$ is undefined and the alternation condition is one index too short: for $q = 1$ the only permutation of $\{1\}$ is the identity, so (5.22) would impose nothing beyond $c_{\alpha\alpha} = 0$, and would not force $c_{\beta\alpha} = -c_{\alpha\beta}$.
- **Correction / repair:** Replace 'for any permutation σ of $\{1, \ldots, q\}$' by 'for any permutation σ of $\{0, 1, \ldots, q\}$'.

CIV-M06. Proof of (5.20) c): $c_{\alpha_0\ldots\alpha_q}$ is a section of $\mathcal{C}$

- **Type:** notation error.
- **Precise location:** printed p. 211, proof of the Lifting lemma (5.20), property c).
- **Printed text:** c) if $x \in U_{\alpha_0\ldots\alpha_q}$, then $c_{\alpha_0\ldots\alpha_q} \in C^q(U_{\alpha_0\ldots\alpha_q}, \mathcal{C})$ admits a lifting in $\mathcal{B}(V_x)$.
- **Issue:** $C^q(\,\cdot\,, \mathcal{C})$ denotes the group of Čech q-cochains relative to an open *covering* (Definition on p. 206); the coefficient $c_{\alpha_0\ldots\alpha_q}$ of the cochain c is a section of the sheaf $\mathcal{C}$ over the open *set* $U_{\alpha_0\ldots\alpha_q}$, so the symbol $C^q(U_{\alpha_0\ldots\alpha_q}, \mathcal{C})$ is meaningless here.
- **Correction / repair:** Replace '$c_{\alpha_0\ldots\alpha_q} \in C^q(U_{\alpha_0\ldots\alpha_q}, \mathcal{C})$' by '$c_{\alpha_0\ldots\alpha_q} \in \mathcal{C}(U_{\alpha_0\ldots\alpha_q})$'.

CIV-M07. Prop. 5.24: the hypothesis must list $n+2$ sets $U_{\alpha_0}, \ldots, U_{\alpha_{n+1}}$

- **Type:** mathematical error.
- **Precise location:** printed p. 212, statement of Proposition 5.24.
- **Printed text:** If X has arbitrarily fine open coverings or at least one acyclic open covering $\mathcal{U} = (U_\alpha)$ such that more than $n+1$ distinct sets $U_{\alpha_0}, \ldots, U_{\alpha_n}$ have empty intersection, then $H^q(X, \mathcal{A}) = 0$ for $q > n$.
- **Issue:** The enumeration $U_{\alpha_0}, \ldots, U_{\alpha_n}$ contains exactly $n+1$ sets, which contradicts 'more than $n+1$'. The hypothesis needed for the proof ($AC^q(\mathcal{U}, \mathcal{A}) = 0$ for $q > n$) is that any $n+2$ pairwise distinct members of $\mathcal{U}$ have empty intersection: a non-zero alternate cochain of degree $q \geqslant n+1$ has a component $c_{\alpha_0\ldots\alpha_q}$ with $q+1 \geqslant n+2$ pairwise distinct indices, whose domain $U_{\alpha_0\ldots\alpha_q}$ is then empty. Read literally with the printed list ($n+1$ distinct sets already have empty intersection), the hypothesis would fail in the very application made on p. 235, where $[0,1]$ is covered by intervals of which only two consecutive ones meet and the conclusion drawn is $\operatorname{topdim}[0,1] \leqslant 1$ ($n = 1$).
- **Correction / repair:** Replace '$U_{\alpha_0}, \ldots, U_{\alpha_n}$' by '$U_{\alpha_0}, \ldots, U_{\alpha_{n+1}}$', i.e. read: '... such that any $n+2$ distinct sets $U_{\alpha_0}, \ldots, U_{\alpha_{n+1}}$ have empty intersection'.

CIV-M08. Proof of Lemma 6.9: convexity of $U_{\alpha_0\ldots\alpha_q}$ is not established as stated

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 214, proof of Lemma 6.9, from 'It is clear that these functions are strictly convex at a' to 'Hence the intersection is convex in the open coordinate chart $\Omega_{\rho(\alpha_0)}$'.
- **Printed text:** thus there is a euclidean ball $B(a, \varepsilon) \subset \Omega'_j$ such that all functions are strictly convex on $B(a, \varepsilon) \cap \Omega'_k \subset \Omega_k$ ... Then the intersection $U_{\alpha_0\ldots\alpha_q}$ is defined in Ω_k, $k = \rho(\alpha_0)$, by the equations

$|\tau_{jk}(x) - \tau_{jk}(a_{\alpha_m})|^2 < \varepsilon^2_{\alpha_m}$ where $j = \rho(\alpha_m)$, $0 \leqslant m \leqslant q$. Hence the intersection is convex in the open coordinate chart $\Omega_{\rho(\alpha_0)}$.

- **Issue:** Two steps are not justified. (i) The expression $\tau_{jk}(a_{\alpha_m})$, $k = \rho(\alpha_0)$, presupposes $a_{\alpha_m} \in \Omega_k$; the radii ε_α were chosen using only the finitely many patches Ω_k that *contain* the centre a_α, and nothing in the construction prevents U_{α_m} from meeting $U_{\alpha_0} \subset \Omega'_k$ while $a_{\alpha_m} \notin \Omega_k$. (ii) Strict convexity of $g_m(x) = |\tau_{jk}(x) - \tau_{jk}(a_{\alpha_m})|^2$ at the points of its own sublevel set does not make that sublevel set convex; convexity of $\{g_m < \varepsilon^2_{\alpha_m}\}$ requires g_m to be convex on a *convex* subset of the chart Ω_k containing it (a smooth function may have positive definite Hessian at every point of a non-convex sublevel set, e.g. $g(x, y) = (r-1)^2 + \delta(y+1)^2 + M\max(x, 0)^2$ on $\{r > 1\} \subset \mathbb{R}^2$).

- **Correction / repair:** Choose the radii so small that for every α and every k with $U_\alpha \cap \Omega'_k \neq \emptyset$ one has (a) $a_\alpha \in \Omega_k$ and $U_\alpha \subset \Omega_k$ (possible since $\overline{\Omega'_k} \subset \Omega_k$ and (Ω_k) is locally finite), and (b) U_α is contained in a euclidean ball of the chart Ω_k centred at a_α on which $x \mapsto |\tau_{\rho(\alpha)k}(x) - \tau_{\rho(\alpha)k}(a_\alpha)|^2$ is convex (its Hessian at a_α equals $2\,{}^tD\tau_{\rho(\alpha)k} \cdot D\tau_{\rho(\alpha)k} > 0$, so this holds after shrinking). Then each U_{α_m} is convex in the chart $\Omega_{\rho(\alpha_0)}$ and $U_{\alpha_0 \ldots \alpha_q}$ is an intersection of convex subsets of that chart. Alternatively, take the U_α to be geodesically convex balls of an auxiliary Riemannian metric (Whitehead), a finite intersection of which is again geodesically convex.

CIV-M09. Example 6.5 / (6.8): X must be assumed oriented to use currents

- **Type:** missing hypothesis.

- **Precise location:** printed p. 214, paragraph following (6.7) and formula (6.8) (continuation of Example 6.5).

- **Printed text:** Instead of using $\mathcal{C}^\infty$ differential forms, one can consider the resolution of $\mathbb{R}$ given by the exterior derivative d acting on currents: $0 \to \mathbb{R} \to \mathcal{D}'_n \xrightarrow{d} \mathcal{D}'_{n-1} \to \cdots \to \mathcal{D}'_0 \to 0$. … the inclusion $\mathcal{E}^q \subset \mathcal{D}'_{n-q}$ induces an isomorphism (6.8) $H^q\big(\mathcal{E}^\bullet(X)\big) \simeq H^q\big(\mathcal{D}'_{n-\bullet}(X)\big)$.

- **Issue:** In this book currents are defined only on oriented manifolds (§ I-2.A, p. 13: 'All the manifolds considered in Sect. 2 will be assumed to be oriented'), and the inclusion $\mathcal{E}^q \subset \mathcal{D}'_{n-q}$, $u \mapsto \big(\varphi \mapsto \int_X u \wedge \varphi\big)$, on which (6.8) rests, uses the orientation. Example 6.5 assumes only that X is a paracompact differentiable manifold. The hypothesis is stated in the parallel discussion on p. 217: 'When X is oriented, $\dim X = n$, we can also consider the complex of compactly supported currents'.

- **Correction / repair:** Add 'assume moreover that X is oriented' before the resolution of $\mathbb{R}$ by currents (or replace $\mathcal{D}'_{n-q}$ by currents with values in the orientation sheaf).

CIV-M10. p. 215: the connecting isomorphisms $\partial^{s,q-s}$ exist only for $s = 1, \ldots, q-1$

- **Type:** mathematical error.

- **Precise location:** printed p. 215, first two lines (end of the paragraph begun on p. 214).

- **Printed text:** for all $s = 1, \ldots, q$ we have isomorphisms $\partial^{s,q-s} : \check{H}^s(\mathcal{U}, \mathcal{Z}^{q-s}) \longrightarrow \check{H}^{s+1}(\mathcal{U}, \mathcal{Z}^{q-s-1})$ for $s \geqslant 1$ and we get a resulting isomorphism.

- **Issue:** For $s = q$ the target is $\check{H}^{q+1}(\mathcal{U}, \mathcal{Z}^{-1})$, and $\mathcal{Z}^{-1} = \ker(d^{-1}) = 0$ ($\mathcal{Z}^0 = \mathbb{R}$ is the last sheaf of the sequence), so $\partial^{q,0}$ is not an isomorphism. The composite written immediately below, $\partial^{q-1,1} \circ \cdots \circ \partial^{1,q-1} \circ \widetilde{\partial}^{0,q} : H^q_{\mathrm{DR}}(X, \mathbb{R}) \to \check{H}^q(\mathcal{U}, \mathbb{R})$, involves $\partial^{s,q-s}$ only for $s = 1, \ldots, q-1$. The trailing 'for $s \geqslant 1$' moreover repeats the range already given.

- **Correction / repair:** Replace 'for all $s = 1, \ldots, q$ we have isomorphisms $\partial^{s,q-s} : \check{H}^s(\mathcal{U}, \mathcal{Z}^{q-s}) \to \check{H}^{s+1}(\mathcal{U}, \mathcal{Z}^{q-s-1})$ for $s \geqslant 1$' by 'for all $s = 1, \ldots, q-1$ we have isomorphisms $\partial^{s,q-s} : \check{H}^s(\mathcal{U}, \mathcal{Z}^{q-s}) \to \check{H}^{s+1}(\mathcal{U}, \mathcal{Z}^{q-s-1})$'.

CIV-M11. Example 6.13: the Dolbeault-Grothendieck lemma is I-3.29, not I-2.9

- **Type:** cross-reference error.
- **Precise location:** printed p. 216, (6.13) Example: Dolbeault cohomology groups, first two sentences.
- **Printed text:** For every $p = 0, 1, \ldots, n$, the Dolbeault-Grothendieck Lemma I-2.9 shows that $(\mathcal{E}^{p,\bullet}, d'')$ is a resolution of the sheaf Ω^p_X … The Dolbeault cohomology groups of X already considered in chapter 1.
- **Issue:** The Dolbeault-Grothendieck lemma is (3.29) of Chapter I (§ I-3.E 'The Dolbeault-Grothendieck Lemma', p. 28). The label I-2.9 is '(2.9) Proposition' on p. 16, on the expression of the exterior derivative in a coordinate system, and is not a lemma. (The same lemma is again miscited as 'I-2.11' on p. 268; (I-2.11) is a displayed formula on p. 16.)
- **Correction / repair:** Replace 'the Dolbeault-Grothendieck Lemma I-2.9' by 'the Dolbeault-Grothendieck Lemma I-3.29'; in the next sentence read 'Chapter I' for 'chapter 1'.

CIV-M12. Example 7.3: compact subsets form a family of supports only if they are closed

- **Type:** missing hypothesis.
- **Precise location:** printed p. 216, (7.3) Example.
- **Printed text:** (7.3) Example. The collection of all compact (non necessarily Hausdorff) subsets of X is a family of supports, which will be denoted simply c in the sequel.
- **Issue:** By Definition 7.1 a family of supports is a collection of *closed* subsets of X, and in a non-Hausdorff space a compact subset need not be closed: on the line with two origins $0_1, 0_2$, the set $K = \{0_1\}$ is compact but $\overline{K} = \{0_1, 0_2\}$, so K belongs to no family of supports. Hence the collection of all compact subsets satisfies Def. 7.1 only when compact subsets are closed, e.g. when X is Hausdorff — which is tacitly assumed from p. 218 on ('X is a locally compact space').
- **Correction / repair:** Read 'the collection of all closed compact subsets of X', or assume X Hausdorff in (7.3); also 'non necessarily' should be 'not necessarily'.

CIV-M13. Remark 8.10: missing d on the last factor of $f' \wedge f''$

- **Type:** mathematical error.
- **Precise location:** printed p. 221, (8.10) Remark, the display 'We get therefore $f' \wedge f'' = \ldots$'.
- **Printed text:** $f' \wedge f'' = \sum_{\nu_0,\ldots,\nu_{p+q}} c'_{\nu_0\ldots\nu_p}\, c''_{\nu_p\ldots\nu_{p+q}}\, \psi_{\nu_{p+q}}\, d\psi_{\nu_0} \wedge \cdots \wedge \psi_{\nu_{p+q-1}},$.
- **Issue:** The last factor must be $d\psi_{\nu_{p+q-1}}$: as printed, the right-hand side is a form of degree $p+q-1$, whereas $f' \wedge f''$ has degree $p+q$. Multiplying the two preceding displays gives $f' \wedge f'' = \sum c'_{\nu_0\ldots\nu_p} c''_{\nu_p\ldots\nu_{p+q}} \psi_{\nu_{p+q}}\, d\psi_{\nu_0} \wedge \cdots \wedge d\psi_{\nu_{p-1}} \wedge d\psi_{\nu_p} \wedge \cdots \wedge d\psi_{\nu_{p+q-1}}$, i.e. exactly Formula (6.12) applied to the $(p+q)$-cocycle $c' \smile c''$.
- **Correction / repair:** Replace the last factor '$\wedge\, \psi_{\nu_{p+q-1}}$' by '$\wedge\, d\psi_{\nu_{p+q-1}}$'.

CIV-M14. Remark 8.10: read $c' \smile c''$ for $c \smile c'$ in the last line

- **Type:** notation error.
- **Precise location:** printed p. 221, (8.10) Remark, last line of the proof.
- **Printed text:** which is precisely the image of $c \smile c'$ in the De Rham cohomology.
- **Issue:** The two Čech classes of (8.10) are c' and c'', of respective degrees p and q, and the statement being proved concerns the cup product $c' \smile c''$; no class c has been introduced.
- **Correction / repair:** Replace 'the image of $c \smile c'$' by 'the image of $c' \smile c''$'.

CIV-M15. (9.3): the point y is not defined; it must be $y = F(x)$

- **Type:** notation error.
- **Precise location:** printed p. 221, §9.A, sentence introducing (9.3).
- **Printed text:** For any $v \in \mathcal{A}_y^{[q]}$, we define $F^\star v \in (F^{-1}\mathcal{A})_x^{[q]}$ by (9.3) $F^\star v(x_0, \ldots, x_q) = v\big(F(x_0), \ldots, F(x_q)\big) \in (F^{-1}\mathcal{A})_{x_q} = \mathcal{A}_{F(x_q)}$.
- **Issue:** Neither $x \in X$ nor $y \in Y$ is quantified, and the formula makes sense only for $y = F(x)$: v is a germ at y, and it is evaluated at the points $F(x_0), \ldots, F(x_q)$ where $x_0, \ldots, x_q$ run in shrinking neighbourhoods of x (as the display at the top of p. 222 makes explicit).
- **Correction / repair:** Read 'For any $x \in X$ and any $v \in \mathcal{A}_y^{[q]}$ with $y = F(x)$, we define $F^\star v \in (F^{-1}\mathcal{A})_x^{[q]}$ by ...'.

CIV-M16. p. 222: the sheaves $\mathcal{A}, \mathcal{B}, \mathcal{C}$ live on Y, not on X

- **Type:** notation error.
- **Precise location:** printed p. 222, paragraph following (9.4).
- **Printed text:** Let $0 \to \mathcal{A} \to \mathcal{B} \to \mathcal{C} \to 0$ be an exact sequence of sheaves on X. ... $F^\star$ preserves the cup product, i.e. $F^\star(\alpha \smile \beta) = F^\star\alpha \smile F^\star\beta$ whenever α, β are cohomology classes with values in sheaves $\mathcal{A}$, $\mathcal{B}$ on X.
- **Issue:** Here $F : X \to Y$ and F^{-1} is applied to $\mathcal{A}, \mathcal{B}, \mathcal{C}$ (the very next display is $0 \to F^{-1}\mathcal{A} \to F^{-1}\mathcal{B} \to F^{-1}\mathcal{C} \to 0$), so these sheaves live on the target Y; likewise $F^\star$ of (9.4) maps $H^q(Y, \mathcal{A})$ into $H^q(X, F^{-1}\mathcal{A})$. As printed, $F^{-1}\mathcal{A}$ and $F^\star\alpha$ are undefined.
- **Correction / repair:** In both sentences replace 'sheaves ... on X' by 'sheaves ... on Y'.

CIV-M17. Remark 9.7: the family of supports is called Φ, then used as Ψ

- **Type:** notation error.
- **Precise location:** printed p. 222, (9.7) Remark, first sentence.
- **Printed text:** (9.7) Remark. Let Φ be a family of supports on Y. We define $F^{-1}\Psi$ to be the family of closed sets $K \subset X$ such that $F(K)$ is contained in some set $L \in \Psi$.
- **Issue:** The family is introduced as Φ and immediately used as Ψ, both in the definition of $F^{-1}\Psi$ and in the conclusion (9.8) $F^\star : H^q_\Psi(Y, \mathcal{A}) \to H^q_{F^{-1}\Psi}(X, F^{-1}\mathcal{A})$; the letter Φ never occurs again.
- **Correction / repair:** Replace 'Let Φ be a family of supports on Y' by 'Let Ψ be a family of supports on Y'.

CIV-M18. Proofs of Th. 9.10 and Prop. 14.16: (4.7) is a Theorem, not a Proposition

- **Type:** cross-reference error.
- **Precise location:** printed p. 223, proof of Theorem 9.10 (first sentence and closing parenthesis); printed p. 239, proof of Proposition 14.16.
- **Printed text:** Proof. When $q = 0$, the property is equivalent to Prop. 4.7. ... (note that the restriction of a flabby sheaf to S is soft by Prop. 4.7 and the fact that every closed subspace of a strongly paracompact subspace is strongly paracompact).
- **Issue:** On p. 203 the statement is printed '(4.7) Theorem. Let $\mathcal{A}$ be a sheaf on X and S a strongly paracompact subspace of X...'. It is cited as 'Prop. 4.7' twice on p. 223 and once on p. 239 ('If S is strongly paracompact, Prop. 4.7 and Th. 9.10 show that'). The content of the citation is correct; only the type is wrong.

- **Correction / repair:** Replace 'Prop. 4.7' by 'Th. 4.7' in the three places (p. 223, twice; p. 239, once).

CIV-M19. (10.12): the identification of $H^l(K^\bullet)$ needs a regular filtration

- **Type:** missing hypothesis.
- **Precise location:** printed p. 226, (10.12) Special case, both displayed conclusions.
- **Printed text:** Assume that there exists an integer $r \geqslant 2$ and an index q_0 such that $E_r^{p,q} = 0$ for $q \neq q_0$. Then this property remains true for larger values of r, and we must have $d_r = 0$. It follows that the spectral sequence collapses in $E_r^\bullet$ and that $H^l(K^\bullet) = E_r^{l-q_0,q_0}$.
- **Issue:** The collapse and $d_r = 0$ do follow, and (10.6) gives $G_p\big(H^l(K^\bullet)\big) = E_\infty^{p,l-p} = 0$ for $p \neq l - q_0$. But the identification $H^l(K^\bullet) = E_\infty^{l-q_0,q_0}$ says moreover that $\bigcap_p F_pH^l(K^\bullet) = 0$, and this does not follow from $\bigcup K_p = K$, $\bigcap K_p = \{0\}$ of (10.1), because $F_pH^l = \mathrm{Im}\big(H^l(K_p^\bullet) \to H^l(K^\bullet)\big)$ is an image, not an intersection. Counterexample: let $K^0 = \bigoplus_{n\geqslant 1} \mathbb{Z}e_n$, $K^1 = \bigoplus_{n\geqslant 1} \mathbb{Z}f_n$, $de_n = f_n - f_{n+1}$, and $K_p^0 = \bigoplus_{n\geqslant p} \mathbb{Z}e_n$, $K_p^1 = \bigoplus_{n\geqslant p} \mathbb{Z}f_n$ for $p \geqslant 1$, $K_p = K$ for $p \leqslant 0$. Then $\bigcup K_p = K$ and $\bigcap K_p = \{0\}$, $d_0 : \mathbb{Z}e_p \to \mathbb{Z}f_p$ is bijective, hence $E_1^{p,q} = 0$ for all (p,q) and a fortiori $E_2^{p,q} = 0$ for $q \neq q_0$; nevertheless $H^0(K^\bullet) = 0$ and $H^1(K^\bullet) \simeq \mathbb{Z}$ (the coefficient sum), whereas (10.12) would give $H^1(K^\bullet) = E_2^{1-q_0,q_0} = 0$. The same objection applies to the second assertion of (10.12). All later uses of (10.12) in the book are made for regular filtrations, where the statement is correct.
- **Correction / repair:** Add to (10.12) the hypothesis that the filtration $(K_p^\bullet)$ is regular in the sense of (10.9), or more generally that $\bigcap_p F_pH^l(K^\bullet) = 0$.

CIV-M20. §11, edge homomorphisms: justifications interchanged, wrong range of r

- **Type:** mathematical error.
- **Precise location:** printed p. 228, paragraph following (11.5), the two assertions preceding (11.6).
- **Printed text:** For all r and l, there is an injective homomorphism $E_{r+1}^{0,l} \hookrightarrow E_r^{0,l}$ whose image can be identified with the set of d_r-cocycles in $E_r^{0,l}$; the coboundary group is zero because $E_r^{p,q} = 0$ for $q < 0$. Similarly, $E_r^{l,0}$ is equal to its cocycle submodule, and there is a surjective homomorphism $E_r^{l,0} \twoheadrightarrow E_{r+1}^{l,0}$.
- **Issue:** By (10.8) the differential d_r has bidegree $(r, 1-r)$, so the d_r-coboundaries in $E_r^{0,l}$ form the image of $d_r : E_r^{-r,\,l+r-1} \to E_r^{0,l}$; this vanishes because the FILTERING degree $-r$ is negative, i.e. because $E_r^{p,q} = 0$ for $p < 0$ (the complementary degree $l + r - 1$ is $\geqslant 0$). The reason printed, '$E_r^{p,q} = 0$ for $q < 0$', is the one that justifies the NEXT assertion, since d_r maps $E_r^{l,0}$ into $E_r^{l+r,\,1-r}$, which vanishes only when $1 - r < 0$. Consequently the two justifications are interchanged, and 'for all r' is too generous: for $r = 0$ the coboundary group of $E_0^{0,l} = K^{0,l}$ is $d''K^{0,l-1}$, which is non-zero in general, so $E_1^{0,l} \hookrightarrow E_0^{0,l}$ fails; and for $r = 1$ the differential $d_1 = d'$ on $E_1^{l,0} = H_{d''}^0(K^{l,\bullet})$ is not zero in general, so $E_1^{l,0}$ is not its own cocycle submodule.
- **Correction / repair:** Read: 'For all $r \geqslant 1$ and l, there is an injective homomorphism $E_{r+1}^{0,l} \hookrightarrow E_r^{0,l}$ ...; the coboundary group is zero because $E_r^{p,q} = 0$ for $p < 0$. Similarly, for $r \geqslant 2$, $E_r^{l,0}$ is equal to its cocycle submodule because $E_r^{p,q} = 0$ for $q < 0$, and there is a surjective homomorphism $E_r^{l,0} \twoheadrightarrow E_{r+1}^{l,0}$.'.

CIV-M21. §11: '(1.5)' is the Snake lemma, not a Theorem

- **Type:** cross-reference error.
- **Precise location:** printed p. 228, first paragraph, sentence preceding the display of $d_1 = \partial$.
- **Printed text:** The definition of the connecting homomorphism in the proof of Th. 1.5 shows that $d_1 = \partial : H_{d''}^q(K^{p,\bullet}) \longrightarrow H_{d''}^q(K^{p+1,\bullet})$ is induced by d'.
- **Issue:** On p. 196 the statement is printed '(1.5) Snake lemma.'; the content cited (the construction of the connecting homomorphism in its proof) is correct, only the type is wrong.

- **Correction / repair:** Replace 'Th. 1.5' by 'the snake lemma (1.5)'.

CIV-M22. Proof of Lemma 11.10: 'graded' modules should be 'filtered' modules

- **Type:** notation error.
- **Precise location:** printed p. 229, last sentence of the proof of Lemma 11.10.
- **Printed text:** The lemma follows from the fact that if a morphism of graded modules $\varphi : M \longrightarrow M'$ induces an isomorphism $G_\bullet(M) \longrightarrow G_\bullet(M')$, then φ is an isomorphism.
- **Issue:** $G_\bullet$ is defined in (10.1) for a FILTERED module, and the modules at hand are $M = H^l(K^\bullet)$, $M' = H^l(L^\bullet)$ equipped with the filtrations of (11.6). For graded modules the assertion is empty, since one would have $G_\bullet(M) = M$.
- **Correction / repair:** Replace 'a morphism of graded modules' by 'a morphism of filtered modules whose filtrations are finite, as in (11.6),'.

CIV-M23. §§13.A and 16.B: the sheaf axioms are (II-1.4'), (II-1.4"), not (II-2.4)

- **Type:** cross-reference error.
- **Precise location:** printed p. 231, sentence following (13.1); printed p. 248, sentence following (16.6).
- **Printed text:** Axioms (II-2.4$'$ and (II-2.4$''$) are clearly satisfied, thus $F_\star\mathcal{A}$ is in fact a sheaf. [p. 248:] it follows easily that $\mathcal{F}^{p,q}_{\mathcal{A},M}$ satisfy axioms (II-2.4) of sheaves.
- **Issue:** The gluing axioms are (1.4$'$) and (1.4$''$) of Chapter II, p. 66 (Def. II-1.6: 'A presheaf $\mathcal{A}$ is said to be a sheaf if it satisfies the gluing axioms (1.4$'$) and (1.4$''$)'). Formula (II-2.4) is the Weierstrass division representation $f(z) = g(z)q(z) + R(z', z_n)$ on p. 80. In addition, the opening parenthesis before II-2.4$'$ on p. 231 is never closed. (The same wrong reference occurs on p. 201.)
- **Correction / repair:** On p. 231 replace 'Axioms (II-2.4$'$ and (II-2.4$''$)' by 'Axioms (II-1.4$'$) and (II-1.4$''$)'; on p. 248 replace 'axioms (II-2.4)' by 'axioms (II-1.4$'$), (II-1.4$''$)'.

CIV-M24. Proof of Criterion 13.12: reference to a non-existent formula (3.10)

- **Type:** cross-reference error.
- **Precise location:** printed p. 235, end of the proof of Criterion 13.12, implication a) $\Rightarrow$ b).
- **Printed text:** By (3.10), the restriction map $\mathcal{Z}^n(X) \longrightarrow \mathcal{Z}^n(S)$ is onto, so $\mathcal{Z}^n$ is soft.
- **Issue:** There is no formula (3.10) in Chapter IV: on p. 201 the label (3.9) is printed twice, first for '$\mathcal{A}^S(X) = \mathcal{A}(S)$, $\mathcal{A}_U(X) = \{$sections of $\mathcal{A}(X)$ vanishing on $S\}$' and again for the long exact sequence $0 \to \mathcal{A}_U(X) \to \mathcal{A}(X) \to \mathcal{A}(S) \to H^1(X, \mathcal{A}_U) \to \cdots$, after which the numbering resumes at (3.11). The reference on p. 235 is to the second of these two displays (surjectivity of $\mathcal{A}(X) \to \mathcal{A}(S)$ once $H^1(X, \mathcal{A}_U) = 0$ has been established).
- **Correction / repair:** Renumber the second display of p. 201 as (3.10) (the citation on p. 235 is then correct), or replace '(3.10)' by 'the long exact sequence (3.9) of p. 201'.

CIV-M25. Proof of Theorem 13.13 a): softness is local by Prop. 4.13, not 4.12

- **Type:** cross-reference error.
- **Precise location:** printed p. 235, proof of Theorem 13.13, part a).
- **Printed text:** a) Apply criterion 13.12 b) and the fact that softness is a local property (Prop. 4.12).

- **Issue:** On p. 204, (4.12) is '(4.12) Example. If X is a paracompact differentiable manifold, the sheaf $\mathcal{E}_X$ of germs of $\mathcal{C}^\infty$ functions on X is a soft sheaf of rings.' The statement that softness is a local property is '(4.13) Proposition. A sheaf $\mathcal{A}$ is soft on X if and only if it is soft in a neighborhood of every point $x \in X$.'.

- **Correction / repair:** Replace '(Prop. 4.12)' by '(Prop. 4.13)'.

CIV-M26. §14: $H^0(X, M) \simeq M^E$ needs X locally connected

- **Type:** missing hypothesis.

- **Precise location:** printed p. 236, paragraph following Definition 14.1; printed p. 238, sentence after (14.12).

- **Printed text:** In particular $H^0(X, M)$ is the set of locally constant functions $X \to M$, therefore $H^0(X, M) \simeq M^E$, where E is the set of connected components of X. [p. 238:] We have in particular $H^0(X, S\,; M) = M^E$, where E is the set of connected components of X which do not meet S.

- **Issue:** A locally constant function is constant on each connected component, but the components can be given independent values only when they are open, i.e. when X is locally connected. For the Cantor set X and $M = \mathbb{Z}$ the components are points, so E is uncountable and M^E has cardinality $2^{2^{\aleph_0}}$, whereas $H^0(X, \mathbb{Z})$, the group of continuous maps from a compact space to a discrete group, is countable. The same remark applies to $H^0(X, S\,; M) = M^E$ on p. 238. All later applications are to manifolds, where the identification is correct.

- **Correction / repair:** Add the hypothesis 'X locally connected' in both places, or replace M^E by 'the module of locally constant functions $X \to M$' (resp. 'vanishing on S').

CIV-M27. Proof of the homotopy theorem p. 237: 'Proposition 14.3' is a formula

- **Type:** cross-reference error.

- **Precise location:** printed p. 237, proof of the homotopy-invariance theorem, second sentence.

- **Printed text:** Let $H : X \times I \longrightarrow Y$ be a homotopy between f and g, with $f = H \circ i_0$ and $g = H \circ i_1$. Proposition 14.3 implies $f^\star = i_0^\star \circ H^\star = i_1^\star \circ H^\star = g^\star$.

- **Issue:** On p. 236, (14.3) is the displayed formula '$f^\star : H^q(Y, M) \longrightarrow H^q(X, M)$', not a statement. The result used, '$i_t^\star$ does not depend on t', is the last assertion of the Proposition numbered (14.4) on p. 236.

- **Correction / repair:** Replace 'Proposition 14.3' by 'Proposition 14.4' (or by the new number given to that Proposition once the duplicate label of p. 237 is corrected, cf. the preceding item).

CIV-M28. Proof of Corollary 14.6: finite generation needs R Noetherian

- **Type:** proof gap / clarification.

- **Precise location:** printed p. 237, proof of Corollary 14.6, last clause.

- **Printed text:** Hence $\mathcal{U}$ is acyclic, $H^q(X, R) = H^q\big(C^\bullet(\mathcal{U}, R)\big)$ and each Čech cochain space is a finitely generated (free) module.

- **Issue:** Finite generation of the terms of a finite complex does not imply finite generation of its cohomology over an arbitrary commutative ring: $Z^q = \ker d^q$ is a submodule of a finitely generated free module, and over a non-Noetherian R such a submodule need not be finitely generated (e.g. $R = k[x_1, x_2, \dots]/(x_i x_j)$ and the complex $R \xrightarrow{x_1} R$, whose kernel is the non-finitely-generated ideal $(x_1, x_2, \dots)$). Since R is only assumed to be a commutative ring in (14.1), the argument is incomplete.

- **Correction / repair:** Either add the hypothesis that R is Noetherian, or complete the argument: $C^\bullet(\mathcal{U}, R) = C^\bullet(\mathcal{U}, \mathbb{Z}) \otimes_{\mathbb{Z}} R$ with $C^\bullet(\mathcal{U}, \mathbb{Z})$ a finite complex of finitely generated free $\mathbb{Z}$-modules, so that (15.8) exhibits $H^q(X, R)$ as an extension of $H^{q+1}(X, \mathbb{Z}) \star R$ by $H^q(X, \mathbb{Z}) \otimes R$, both finitely generated over R.

CIV-M29. Proposition 14.16: the identification with $H^q_c(X \smallsetminus S, M)$ needs S closed

- **Type:** mathematical error.
- **Precise location:** printed p. 239, (14.16) Proposition, second assertion.
- **Printed text:** In particular, if $X \smallsetminus S$ is relatively compact in X, we have $H^q(X, S\,; M) \simeq H^q_c(X \smallsetminus S, M)$.
- **Issue:** The first assertion, $H^q(X, S\,; M) \simeq H^q_{X \smallsetminus S}(X, M)$, is cohomology with supports contained in $X \smallsetminus S$. Passing from it to $H^q_c(X \smallsetminus S, M)$ (extension by zero of compactly supported sections) needs $X \smallsetminus S$ to be OPEN, i.e. S closed; for S open, $X \smallsetminus S$ is closed and one gets local cohomology along a compact set instead. Counterexample: $X = \mathbb{R}$, $S =]-\infty, 0[\cup]1, +\infty[$ (open, so the hypothesis of (14.16) is satisfied), $X \smallsetminus S = [0, 1]$ compact. By the formula of p. 238, $H^0(X, S\,; M) = M^E$ with E the set of components of $\mathbb{R}$ not meeting S, hence $H^0(X, S\,; M) = 0$, whereas $H^0_c([0, 1], M) = H^0([0, 1], M) = M$. In degree 1, with $M = \mathbb{Z}$, the exact sequence (14.12) gives $\mathbb{Z} = H^0(\mathbb{R}) \to H^0(S) = \mathbb{Z}^2 \to H^1(\mathbb{R}, S; \mathbb{Z}) \to H^1(\mathbb{R}) = 0$, so $H^1(\mathbb{R}, S; \mathbb{Z}) \simeq \mathbb{Z}$, whereas $H^1_c([0, 1], \mathbb{Z}) = 0$. The statement is used later only with S closed (proof of Cor. 14.18 and p. 249, with $S = \{\infty\}$).
- **Correction / repair:** State the second assertion as: 'In particular, if S is closed in X and $X \smallsetminus S$ is relatively compact in X, we have $H^q(X, S\,; M) \simeq H^q_c(X \smallsetminus S, M)$.'.

CIV-M30. Corollary 15.6: the hypothesis of (15.5) on $K^\bullet$ or $L^\bullet$ is missing

- **Type:** missing hypothesis.
- **Precise location:** printed p. 242, statement of (15.6) Corollary.
- **Printed text:** (15.6) Corollary. If R is a field, or if one of the graded modules $H^\bullet(K^\bullet)$, $H^\bullet(L^\bullet)$ is torsion free, then $H^l\big((K \otimes L)^\bullet\big) \simeq \bigoplus_{p+q=l} H^p(K^\bullet) \otimes H^q(L^\bullet)$.
- **Issue:** Torsion-freeness of the COHOMOLOGY does not imply torsion-freeness of one of the COMPLEXES, which is the hypothesis of (15.5); without it the conclusion is false. Take $R = \mathbb{Z}$, $K^\bullet = \big(\mathbb{Z} \xrightarrow{2} \mathbb{Z} \to \mathbb{Z}/2\mathbb{Z}\big)$ in degrees $0, 1, 2$ (an exact complex, so $H^\bullet(K^\bullet) = 0$ is torsion free) and $L^\bullet = \mathbb{Z}/2\mathbb{Z}$ concentrated in degree 0. Then $(K \otimes L)^\bullet = \big(\mathbb{Z}/2 \xrightarrow{0} \mathbb{Z}/2 \xrightarrow{\sim} \mathbb{Z}/2\big)$, so $H^0\big((K \otimes L)^\bullet\big) = \mathbb{Z}/2\mathbb{Z} \neq 0$, whereas $\bigoplus_{p+q=0} H^p(K^\bullet) \otimes H^q(L^\bullet) = 0$. The first alternative (R a field) is harmless, since every module is then free.
- **Correction / repair:** State (15.6) as: 'Under the hypothesis of (15.5) (i.e. $K^\bullet$ or $L^\bullet$ torsion free), if moreover R is a field or one of the graded modules $H^\bullet(K^\bullet)$, $H^\bullet(L^\bullet)$ is torsion free, then …'.

CIV-M31. Remark after (15.8): the collapse in E_2 is not proved by (15.8)

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 243, remark following (15.8).
- **Printed text:** In general, it is interesting to observe that the spectral sequence of $K^\bullet \otimes L^\bullet$ collapses in E_2 if $K^\bullet$ is torsion free: $H^k\big((K \otimes L)^\bullet\big)$ is in fact the direct sum of the terms $E_2^{p,q} = H^p\big(K^\bullet \otimes H^q(L^\bullet)\big)$ thanks to (15.8).
- **Issue:** What (15.5) and (15.8) give is only that $\bigoplus_{p+q=k} E_2^{p,q}$ and $H^k\big((K \otimes L)^\bullet\big)$ are abstractly isomorphic (both are extensions built from $\bigoplus H^p(K) \otimes H^q(L)$ and $\bigoplus H^p(K) \star H^q(L)$). An abstract isomorphism between $\bigoplus E_2^{p,q}$ and $\bigoplus E_\infty^{p,q}$ does not force $E_\infty = E_2$, since a module may be isomorphic to a proper subquotient of itself (e.g. $2\mathbb{Z} \subset \mathbb{Z}$).
- **Correction / repair:** Replace 'thanks to (15.8)' by the reduction already used at the end of the proof of (15.5): one may replace $K^\bullet$ by the quasi-isomorphic split torsion free complex $\widetilde{K}^\bullet = \widetilde{Z}^\bullet \oplus \widetilde{B}^{\bullet+1}$, which is a direct sum of two-term complexes; the corresponding double complexes have only two non-zero columns, so $d_r = 0$ for $r \geqslant 2$.

CIV-M32. Proof of Theorem 15.9: the splitting is not proved when X is compact

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 244, last sentence of the proof of Theorem 15.9 (case X compact).
- **Printed text:** and the desired exact sequence is the direct limit of the exact sequences of Formula 15.8 obtained for $K^\bullet = C^\bullet(\mathcal{U}, \mathcal{A})$.
- **Issue:** Theorem 15.9 asserts a SPLIT exact sequence. A direct limit of split exact sequences is exact, but need not split: the splittings of (15.8) depend on a choice of projection $K^p \to Z^p$ and are not natural in $K^\bullet$, so they need not be compatible with the refinement maps $C^\bullet(\mathcal{U}, \mathcal{A}) \to C^\bullet(\mathcal{V}, \mathcal{A})$; the obstruction to splitting the colimit sequence lies in $\varprojlim{}^1 \operatorname{Hom}(C_i, \mathcal{A})$, which can be non-zero. Only the exactness is obtained by the printed argument. (In the other case of the theorem, M finitely generated, the splitting does come directly from (15.8).)
- **Correction / repair:** Either restrict the splitting assertion of (15.9) to the case where M is finitely generated, or supply an argument for the splitting when X is compact.

CIV-M33. §16.A: 'left' and 'right' exact interchanged for $\operatorname{Hom}(\bullet, M)$

- **Type:** notation error.
- **Precise location:** printed p. 246, § 16.A, sentence following the two displayed Hom sequences.
- **Printed text:** i.e. $\operatorname{Hom}(M, \bullet)$ is a covariant left exact functor and $\operatorname{Hom}(\bullet, M)$ a contravariant right exact functor. The module M is said to be projective if $\operatorname{Hom}(M, \bullet)$ is also right exact, and injective if $\operatorname{Hom}(\bullet, M)$ is also left exact.
- **Issue:** With the standard convention (a contravariant functor F is left exact when $0 \to A \to B \to C \to 0$ yields an exact sequence $0 \to F(C) \to F(B) \to F(A)$, which is exactly the second display), $\operatorname{Hom}(\bullet, M)$ is contravariant LEFT exact for every M. Read with that convention, 'injective if $\operatorname{Hom}(\bullet, M)$ is also left exact' is vacuous and would make every module injective. The printed sentence is coherent only if 'left/right exact' is read positionally on the display $\operatorname{Hom}(A, M) \leftarrow \operatorname{Hom}(B, M) \leftarrow \operatorname{Hom}(C, M) \leftarrow 0$, a convention the reader is not given. Elsewhere the book uses the standard terminology ('By the left exactness of $\operatorname{Hom}(A, \bullet)$', p. 247).
- **Correction / repair:** Write: '$\operatorname{Hom}(\bullet, M)$ is a contravariant left exact functor. The module M is said to be projective if $\operatorname{Hom}(M, \bullet)$ is also right exact, and injective if $\operatorname{Hom}(\bullet, M)$ is also right exact, i.e. if every injection $A \hookrightarrow B$ induces a surjection $\operatorname{Hom}(B, M) \twoheadrightarrow \operatorname{Hom}(A, M)$.'.

CIV-M34. §16.A: the two spectral sequences collapse in E_2, not in E_1

- **Type:** mathematical error.
- **Precise location:** printed p. 247, sentence following the display of $E_1^{p,0}$, $\widetilde{E}_1^{p,0}$ and $E_1^{p,q} = \widetilde{E}_1^{p,q} = 0$.
- **Printed text:** Therefore, both spectral sequences collapse in E_1 and we get $H^l(K^\bullet) = H^l\big(\operatorname{Hom}(A, D^\bullet)\big) = H^l\big(\operatorname{Hom}(C_\bullet, B)\big)$.
- **Issue:** The vanishing $E_1^{p,q} = 0$ for $q \neq 0$ leaves a single row, but $d_1 : E_1^{p,0} \to E_1^{p+1,0}$ preserves q and is precisely the differential of the complex $\operatorname{Hom}(A, D^\bullet)$, which is non-zero in general; by (10.11) the sequence therefore does not collapse in E_1. Collapse in E_1 would give the false identity $H^l(K^\bullet) = E_1^{l,0} = \operatorname{Hom}(A, D^l)$. What holds is $E_2^{p,0} = H^p\big(\operatorname{Hom}(A, D^\bullet)\big)$, $E_2^{p,q} = 0$ for $q \neq 0$, so the sequences collapse in E_2 and (10.12), which requires $r \geqslant 2$, yields the printed conclusion. The book uses the correct formulation one page later ('The spectral sequence collapses in E_2', proof of Lemma 16.5, p. 248).
- **Correction / repair:** Replace 'collapse in E_1' by 'collapse in E_2', with $E_2^{p,0} = H^p\big(\operatorname{Hom}(A, D^\bullet)\big)$ and $\widetilde{E}_2^{p,0} = H^p\big(\operatorname{Hom}(C_\bullet, B)\big)$.

CIV-M35. §16.B: X must be assumed paracompact as well as locally compact

- **Type:** missing hypothesis.
- **Precise location:** printed p. 248, first sentence of § 16.B.
- **Printed text:** Let $\mathcal{A}$ be a sheaf of abelian groups on a locally compact topological space X of finite topological dimension $n = \operatorname{topdim} X$. By 13.12 c), $\mathcal{A}$ admits a soft resolution $\mathcal{L}^\bullet$ of length n.
- **Issue:** Criterion (13.12) is stated and proved for a PARACOMPACT space (p. 234), and its proof uses paracompactness throughout (Prop. 4.13, De Rham–Weil). Local compactness does not imply paracompactness (the long line, or the space of countable ordinals, is locally compact Hausdorff and not paracompact), so 13.12 c) is not applicable as stated. § 16.C explicitly assumes 'X a paracompact topological manifold', so paracompactness is clearly intended in § 16.B as well.
- **Correction / repair:** Replace 'on a locally compact topological space X' by 'on a paracompact, locally compact topological space X'.

CIV-M36. (16.6): Hom_R requires $\mathcal{A}$ to be a sheaf of R-modules

- **Type:** notation error.
- **Precise location:** printed p. 248, first sentence of § 16.B together with formula (16.6).
- **Printed text:** Let $\mathcal{A}$ be a sheaf of abelian groups on a locally compact topological space $X \ldots \mathcal{F}^{p,q}_{\mathcal{A},M}(U) = \operatorname{Hom}_R\big(\mathcal{L}^{n-q}_c(U), M^p\big)$,.
- **Issue:** $\operatorname{Hom}_R\big(\mathcal{L}^{n-q}_c(U), M^p\big)$ is defined only if $\mathcal{L}^{n-q}_c(U)$ is an R-module, i.e. if $\mathcal{A}$ and its soft resolution are sheaves of R-modules; for a sheaf of abelian groups only $\operatorname{Hom}_{\mathbb{Z}}$ makes sense. In § 16.C the sheaf $\mathcal{A}$ is indeed a sheaf of R-modules (Def. 16.8: locally constant with stalk an R-module L).
- **Correction / repair:** Replace 'a sheaf of abelian groups' by 'a sheaf of R-modules' in the first sentence of § 16.B.

CIV-M37. §16.C: two unresolved references 'exercise 18.?'

- **Type:** cross-reference error.
- **Precise location:** printed p. 250, paragraph following Definition 16.12; printed p. 251, Remark 16.15.
- **Printed text:** it is not difficult to check that τ_X coincides with the trivial sheaf $\mathbb{Z}$ if and only if X is orientable (cf. exercice 18.?). [p. 251:] it can be proved (exercise 18.?) that $H^n(X, \mathcal{A}) = 0$ for every locally constant sheaf $\mathcal{A}$ on X.
- **Issue:** There is no § 18 in Chapter IV and no exercise anywhere in the chapter: exercises occur only in Chapter I § 8 (pp. 60–64) and Chapter II § 11 (pp. 127–128). Both references are unresolved LaTeX placeholders. In addition, 'exercice' on p. 250 is the French spelling.
- **Correction / repair:** Supply a valid reference in both places or delete the parentheses; and spell 'exercise' on p. 250.

CIV-M38. Proposition 16.17: X must be assumed connected as well as oriented

- **Type:** missing hypothesis.
- **Precise location:** printed p. 251, statement of (16.17) Proposition and the step 'since $\operatorname{Ker} \widetilde{d}^n \simeq H^n_c(X, M) = M$' in its proof.
- **Printed text:** Up to the sign, the above pairing is given by the cup product, modulo the identification $H^n_c(X, L \otimes M) \simeq L \otimes M$.

- **Issue:** The identification $H^n_c(X, L \otimes M) \simeq L \otimes M$ comes from Corollary 16.14 a), whose statement begins 'Let X be a connected topological manifold'. The proof of (16.17) uses it twice more, in 'Ker $\widetilde{d}^n \simeq H^n_c(X, M) = M$' and in the choice of 'a generator of $H^n_c(X, \mathbb{Z})$'. The paragraph introducing (16.16) only assumes 'X is oriented'; for a disconnected oriented n-manifold one has $H^n_c(X, L \otimes M) \simeq (L \otimes M)^{\pi_0(X)}$ and $H^n_c(X, \mathbb{Z})$ has no distinguished generator.

- **Correction / repair:** Change the standing hypothesis before (16.16) to 'Assume from now on that X is connected and oriented', or argue on each connected component.

CIV-M39. Remark 16.19: the Čech complex must be taken with compact supports

- **Type:** mathematical error.

- **Precise location:** printed p. 252, Remark 16.19, the Čech computation for $X = \mathbb{R}$.

- **Printed text:** The Čech differential $AC^0(\mathcal{U}, \mathbb{Z}) \longrightarrow AC^1(\mathcal{U}, \mathbb{Z})$, $(c_k) \longmapsto (c_{k\,k+1}) = (c_{k+1} - c_k)$ shows immediately that the generators of $H^1_c(\mathbb{R}, \mathbb{Z})$ are the 1-cocycles c such that $c_{01} = \pm 1$ and $c_{k\,k+1} = 0$ for $k \neq 0$.

- **Issue:** As written, $AC^0(\mathcal{U}, \mathbb{Z}) = \prod_{k \in \mathbb{Z}} \mathbb{Z}$ is the ordinary alternate Čech complex of the covering $\mathcal{U} = (]k-1, k+1[)_{k \in \mathbb{Z}}$, and it computes $H^1(\mathbb{R}, \mathbb{Z})$, not H^1_c: for an arbitrary family $(b_{k\,k+1})$ one may set $c_0 = 0$ and $c_{k+1} = c_k + b_{k\,k+1}$, so d^0 is surjective, $H^1(\mathcal{U}, \mathbb{Z}) = 0$ and no generator exists (consistently with $H^1(\mathbb{R}, \mathbb{Z}) = 0$). With compact, i.e. finite, supports the assertion is correct: $d^0 : AC^0_c \to AC^1_c$ has for image the finitely supported families with $\sum_k c_{k\,k+1} = 0$, so $H^1_c(\mathbb{R}, \mathbb{Z}) \simeq \mathbb{Z}$ via the sum, and the cocycle with $c_{01} = \pm 1$ and $c_{k\,k+1} = 0$ otherwise is a generator.

- **Correction / repair:** Write the differential as $AC^0_c(\mathcal{U}, \mathbb{Z}) \longrightarrow AC^1_c(\mathcal{U}, \mathbb{Z})$, i.e. restrict to Čech cochains with finite support, and note that the image of d^0 consists of the finitely supported families $(c_{k\,k+1})$ with $\sum_k c_{k\,k+1} = 0$.

Typographical and editorial corrections

- **CIV-T01.** printed p. 195, Chapter IV introductory paragraph, lines 6-8. *Printed:* all the basic properties of cohomology groups (long exact sequences, Mayer Vietoris exact sequence, Leray's theorem, relations with Cech cohomology, De Rham-Weil isomorphism theorem). *Correction:* Read 'Čech cohomology' for 'Cech cohomology' and 'Mayer-Vietoris exact sequence' for 'Mayer Vietoris exact sequence'.

- **CIV-T02.** printed p. 197, (1.7) Five lemma, statement, second sentence. *Printed:* If φ_2 and φ_4 is surjective and φ_5 injective, then φ_3 is surjective. *Issue:* The subject consists of the two maps φ_2, φ_4, so the verb must be plural; the preceding sentence correctly reads 'If φ_2 and φ_4 are injective and φ_1 surjective, then φ_3 is injective.'. *Correction:* Replace 'φ_2 and φ_4 is surjective' by 'φ_2 and φ_4 are surjective'.

- **CIV-T03.** printed pp. 197, 199, 201, 205, running heads. *Printed:* § 2. The Simplicial Flabby Resolution of a Sheaf (head of p. 197); § 3. Cohomology Groups with Values in a Sheaf (head of p. 199); § 4. Acyclic Sheaves (head of p. 201); § 5. Čech Cohomology (head of p. 205). *Correction:* The running heads of pp. 197, 199, 201, 205 should read '§ 1. Basic Results of Homological Algebra', '§ 2. The Simplicial Flabby Resolution of a Sheaf', '§ 3. Cohomology Groups with Values in a Sheaf', '§ 4. Acyclic Sheaves'; i.e. the section mark must be reissued after the page break.

- **CIV-T04.** printed p. 198, paragraph preceding Def. 2.3, and p. 199, attribution of Theorem (2.7). *Printed:* which have become a standard tool in sheaf theory since the publication of Godement's book [Godement 1957]. ... (2.7) Theorem ([Godement 1957]). *Issue:* The References contain only 'Godement, R. [1958] — Théorie des faisceaux, Hermann, Paris (1958)' (p. 451), which is also the correct year of publication. '[Godement 1957]' occurs exactly twice in the volume (pp. 198 and 199) and matches no entry. *Correction:* Replace '[Godement 1957]' by '[Godement 1958]' in both places.

- **CIV-T05.** printed p. 201, §3.B, the two displays both numbered (3.9). *Printed:* (3.9) $\mathcal{A}^S(X) = \mathcal{A}(S)$, $\mathcal{A}_U(X) = \{\text{sections of } \mathcal{A}(X) \text{ vanishing on } S\}$. ...(3.9) $0 \longrightarrow \mathcal{A}_U(X) \longrightarrow \mathcal{A}(X) \longrightarrow \mathcal{A}(S) \longrightarrow$

$H^1(X, \mathcal{A}_U) \cdots$. *Correction:* Number the second display (the long exact sequence obtained from Theorem 3.5) as (3.10), so that § 3 runs (3.7), (3.8), (3.9), (3.10), (3.11) without repetition.

- **CIV-T06.** printed p. 203, statement of Theorem 4.7, last words. *Printed:* Then every section f of $\mathcal{A}$ on S can be extended to a section of $\mathcal{A}$ on some open neighborhood Ω of $\mathcal{A}$. *Issue:* Ω is an open neighbourhood of the subspace $S \subset X$, not of the sheaf $\mathcal{A}$; the proof ends with 'It remains only to show that Ω is a neighborhood of S' (p. 204), and Cor. 4.8 restates the result as 'extends to a neighborhood Ω of S'. *Correction:* Replace 'some open neighborhood Ω of $\mathcal{A}$' by 'some open neighborhood Ω of S'.

- **CIV-T07.** printed p. 204, proof of Proposition 4.13, second and eighth lines. *Printed:* let $(U_\alpha)_{\alpha\in I}$ be a locally finite open covering of X which refine some covering by neighborhoods on which $\mathcal{A}$ is soft . . . a section of $\mathcal{A}$ over F_J is continuous as soon it is continuous on S and on each $\overline{V}_\alpha$. *Issue:* Two grammatical slips: the subject of 'refine' is the singular 'covering', and 'as soon it is continuous' lacks 'as'. *Correction:* Read 'which refines' for 'which refine', and 'as soon as it is continuous' for 'as soon it is continuous'.

- **CIV-T08.** printed p. 205, proof of Theorem 4.17, sentence following the display defining f_β. *Printed:* because $(X \smallsetminus U_\beta) \cup S \cup \overline{V}_\beta$ is closed and $f - \sum f_\alpha = 0$ on $(X \smallsetminus U_\alpha) \cap S$. *Correction:* Replace '$(X \smallsetminus U_\alpha) \cap S$' by '$(X \smallsetminus U_\beta) \cap S$'.

- **CIV-T09.** printed p. 206, §5.A, first paragraph. *Printed:* This more concrete approach was historically the first one used to define sheaf cohomology ([Leray 1950], [Cartan 1950]); *Correction:* Replace '[Cartan 1950]' by '[Cartan 1954]' (here and on p. 99), or add a separate References entry for the Séminaire H. Cartan 1950/51.

- **CIV-T10.** printed p. 213, third display (definition of $\widetilde{\partial}^{0,q}$). *Printed:* $H^q\big(\mathcal{L}^\bullet(X)\big) = \mathcal{Z}^q(X)/d^{q-1}\mathcal{L}^{q-1}(x) \xrightarrow{\widetilde{\partial}^{0,q}} H^1(X, \mathcal{Z}^{q-1})$. *Issue:* Lower-case x for the space X: the denominator is the group $d^{q-1}\mathcal{L}^{q-1}(X)$ of coboundaries of global sections, as the numerator $\mathcal{Z}^q(X)$ on the same line shows. *Correction:* Replace '$d^{q-1}\mathcal{L}^{q-1}(x)$' by '$d^{q-1}\mathcal{L}^{q-1}(X)$'.

- **CIV-T11.** printed p. 213, (6.5) Example: De Rham cohomology, first sentence. *Printed:* Let X be a n-dimensional paracompact differential manifold. *Issue:* 'differential manifold' occurs only here; everywhere else (Ex. 2.2, Ex. 4.12, Cor. 4.19, Lemma 6.9, . . . , twenty occurrences) the book writes 'differentiable manifold'. The article before 'n-dimensional' should be 'an' (this slip recurs five times in the volume). *Correction:* Read 'Let X be an n-dimensional paracompact differentiable manifold.'.

- **CIV-T12.** printed p. 217, display (7.6), first row. *Printed:* (7.6) $0 \longrightarrow \mathcal{A}^{[q]}_\Phi(X) \longrightarrow \mathcal{B}^{[q]}_\Phi(X) \longrightarrow \mathcal{C}^{[q]}_\Phi(X) \longrightarrow \cdots$. *Correction:* Replace the final '$\longrightarrow \cdots$' of the first row of (7.6) by '$\longrightarrow 0$'.

- **CIV-T13.** printed p. 217, display (7.10). *Printed:* (7.10) $H^q_{\mathrm{DR},c}(X, \mathbb{R}) := H^q\big((\mathcal{D}^\bullet(X)\big) \xrightarrow{\simeq} H^q_c(X, \mathbb{R}),$. *Issue:* Unbalanced parentheses: three '(' and two ')'. The parallel formulas (6.6) and (7.11) read $H^q\big(\mathcal{E}^\bullet(X)\big)$, $H^q\big(\mathcal{D}^\bullet(X)\big)$. *Correction:* Replace '$H^q\big((\mathcal{D}^\bullet(X)\big)$' by '$H^q\big(\mathcal{D}^\bullet(X)\big)$'.

- **CIV-T14.** printed p. 219, sentence following (8.5′). *Printed:* These formulas are deduced from (8.3) applied to a representant $f \in \mathcal{A}^{[p]}(X)$ of α and to a lifting $g' \in \mathcal{B}'^{[q]}(X)$ of a representative g'' of β''. *Issue:* 'representant' is the French 'représentant'; the English word, used a few words later in the same sentence, is 'representative'. (The same gallicism occurs twice more in the volume, pp. 36 and 109.) *Correction:* Replace 'a representant f' by 'a representative f'.

- **CIV-T15.** printed pp. 223, 235 and 245, running head at the top of the page. *Printed:* § 10. Spectral Sequence of a Filtered Complex (running head of p. 223, whose text is § 9.B and § 9.C). *Correction:* Set the running heads of pp. 223, 235 and 245 to '§ 9. Inverse Images and Cartesian Products', '§ 13. Direct Images and the Leray Spectral Sequence' and '§ 15. Künneth Formula' respectively (and correct the corresponding table-of-contents page numbers to 224, 236, 246).

- **CIV-T16.** printed p. 227, displayed formula (11.1), second arrow. *Printed:* $d' : K^{p,q} \longrightarrow K^{p+1,q}, \qquad d'' : K^{p,q+1} \longrightarrow K^{p,q+1},$. *Issue:* As printed, d'' would be an endomorphism of $K^{p,q+1}$. The second differential of a double complex must have bidegree $(0,1)$, as required by $d = d' + d''$ having total degree $+1$, by the relations (11.2), and by (11.4), where $d_0 = d''$ acts on $E_0^{p,q} = K^{p,q}$ and $E_1^{p,q} = H^q_{d''}(K^{p,\bullet})$. *Correction:* Replace $d'' : K^{p,q+1} \longrightarrow K^{p,q+1}$ by $d'' : K^{p,q} \longrightarrow K^{p,q+1}$.

- **CIV-T17.** printed p. 228, proof of Theorem 11.8, sentence beginning 'However $E_\infty^{1,0} = E_2^{1,0}$'. *Printed:* all differentials d_r starting from $E_r^{1,0}$ or abuting to $E_r^{1,0}$ must be zero for $r \geqslant 2$. *Issue:* Misspelling: 'abuting' has one t. *Correction:* Replace 'abuting' by 'abutting'.

- **CIV-T18.** printed p. 236, '(14.4) Proposition', and printed p. 237, '(14.4) Theorem'. *Printed:* (14.4) Proposition. For any space X, the projection $\pi : X \times I \longrightarrow X$ and the injections $i_t \ldots$ [p. 237:] (14.4) Theorem. If $f, g : X \longrightarrow Y$ are homotopic maps, then $f^\star = g^\star : H^q(Y,M) \longrightarrow H^q(X,M)$. *Correction:* Give the homotopy-invariance theorem of p. 237 a distinct number (e.g. (14.4′)), or renumber the whole sequence, and adjust the citation in its proof accordingly.

- **CIV-T19.** printed p. 238, § 14.B, displayed condition defining $M^{[q]}(X,S)$. *Printed:* $(x_0,\ldots,x_q) \in S^q, \quad x_1 \in V(x_0), \ \ldots, \ x_q \in V(x_0,\ldots,x_{q-1})$. *Correction:* Replace $(x_0,\ldots,x_q) \in S^q$ by $(x_0,\ldots,x_q) \in S^{q+1}$.

- **CIV-T20.** printed p. 240, last two lines of the proof of Corollary 14.18. *Printed:* with $\widehat{f}(\infty) = \widehat{g}(\infty) = H(\infty,t) = \infty$, so that $\widehat{f}, \widehat{g}$ are homotopic as maps $(\widehat{X},\infty) \longrightarrow (\widehat{Y},\infty)$. Proposition 14.16 implies $H^q_c(X,M) = H^q(\widetilde{X},\infty\,; M)$ and the result follows. *Correction:* Replace $H(\infty,t)$ by $\widehat{H}(\infty,t)$, and $H^q(\widetilde{X},\infty\,;M)$ by $H^q(\widehat{X},\infty\,;M)$.

- **CIV-T21.** printed p. 243, line 4 of the page, end of the proof of the algebraic Künneth formula. *Printed:* and the kernel of the last arrow is the torsion sum $\bigoplus_{p+q=l+1} H^p(K^\bullet) \star H^q(L^\bullet)$. This gives the exact sequence of the lemma. *Issue:* The sequence being established is the one of (15.5), which is labelled 'Algebraic Künneth formula'; § 15.B contains no lemma. (The proof is moreover printed after the statement of Corollary 15.6, although it proves 15.5.) *Correction:* Replace 'the exact sequence of the lemma' by 'the exact sequence of Formula (15.5)'.

- **CIV-T22.** printed p. 243, paragraph beginning 'To construct $\widetilde{K}^\bullet$', second line. *Printed:* let $\widetilde{Z}^\bullet \longrightarrow Z^\bullet$ be a surjective map with $\widetilde{Z}^\bullet$ free, $\widetilde{B}^\bullet$ the inverse image of $B^\bullet$ in $\widetilde{\mathscr{Z}}^\bullet$ and $\widetilde{K}^\bullet = \widetilde{Z}^\bullet \oplus \widetilde{B}^{\bullet+1}$. *Issue:* In 'the inverse image of $B^\bullet$ in $\widetilde{\mathscr{Z}}^\bullet$' the letter is set in the script alphabet reserved in this book for sheaves (as in the sheaf $\mathcal{Z}^n$ of pp. 234–235), whereas the same object is printed twice on the same line with the italic Z of the module of cocycles. *Correction:* Set the symbol as the italic $\widetilde{Z}^\bullet$, consistently with the rest of the paragraph.

- **CIV-T23.** printed p. 244, first sentence of the proof of Theorem 15.10. *Printed:* Proof. We compute $H^l(X, \mathcal{A} \boxtimes \mathcal{B})$ by means of the Leray spectral sequence of the projection $\pi : X \times Y \longrightarrow X$. *Issue:* $\mathcal{A} \boxtimes \mathcal{B}$ is a sheaf on $X \times Y$ (formula (9.11)), so $H^l(X, \mathcal{A} \boxtimes \mathcal{B})$ is meaningless; the group to be computed is the one occurring in the statement of (15.10), namely $H^l(X \times Y, \mathcal{A} \boxtimes \mathcal{B})$. *Correction:* Replace $H^l(X, \mathcal{A} \boxtimes \mathcal{B})$ by $H^l(X \times Y, \mathcal{A} \boxtimes \mathcal{B})$.

- **CIV-T24.** printed p. 246, proof of Proposition 16.1, beginning of the converse part. *Printed:* Conversely, assume that R is divisible. Let $f : A \longrightarrow M$ be a morphism and $B \supset A$. *Issue:* The converse of (16.1) starts from the divisibility of the module M; divisibility of the ring R is neither assumed nor used. The extension step in the proof uses precisely the divisibility of M: 'if $\lambda_0 \neq 0$, select $y \in M$ such that $\lambda_0 y = \widetilde{f}(\lambda_0 x)$'. *Correction:* Replace 'assume that R is divisible' by 'assume that M is divisible'.

- **CIV-T25.** printed p. 251, proof of Proposition 16.17, first display (choice of the resolutions). *Printed:* $\mathcal{L}^q = R^{[q]} \quad \text{for} \quad q < n, \qquad \mathcal{L}^n = \ker\big(R^{[q]} \longrightarrow R^{[q+1]}\big),$. *Correction:* Replace $\mathcal{L}^n = \ker\big(R^{[q]} \to R^{[q+1]}\big)$ by $\mathcal{L}^n = \ker\big(R^{[n]} \to R^{[n+1]}\big)$.

- **CIV-T26.** printed p. 251, proof of Proposition 16.17, sentence 'We embed M in M^0'. *Printed:* We embed M in M^0 by $\lambda \mapsto u \otimes_{\mathbb{Z}} \lambda$ where $u \in \mathbb{Z}^{[n]}(X)$ is a representative of a generator of $H^n_c(X,\mathbb{Z})$, and we set $M^1 = M^0/M$. *Correction:* Replace $u \in \mathbb{Z}^{[n]}(X)$ by $u \in \mathbb{Z}^{[n]}_c(X)$.

Chapter V. Hermitian Vector Bundles

Range checked: printed pp. 253–286.

Mathematical corrections, cross-references and proof clarifications

CV-M01. § 2: wrong exponent $(-1)^p$ in the local expression of Ds

- **Type:** mathematical error.
- **Precise location:** printed p. 255, § 2, the unnumbered display following 'By axiom (2.1′) we get'.
- **Printed text:** $Ds = \sum_{1\leqslant\lambda\leqslant r}\big(d\sigma_\lambda \otimes e_\lambda + (-1)^p\sigma_\lambda \wedge De_\lambda\big)$.
- **Issue:** Axiom (2.1′) reads $D(f \wedge s) = df \wedge s + (-1)^p f \wedge Ds$ for $f \in \mathcal{C}^\infty_p(M,\mathbb{K})$. It is applied here with $f = \sigma_\lambda \in \mathcal{C}^\infty_q(\Omega,\mathbb{K})$ (stated two lines above), so the exponent is q; the letter p has no meaning at this point. The exponent q is also what makes the following display correct: with $De_\mu = \sum_\lambda a_{\lambda\mu} \otimes e_\lambda$ one has $(-1)^q\,\sigma_\mu \wedge a_{\lambda\mu} = a_{\lambda\mu} \wedge \sigma_\mu$, which yields $Ds = \sum_\lambda\big(d\sigma_\lambda + \sum_\mu a_{\lambda\mu} \wedge \sigma_\mu\big) \otimes e_\lambda$.
- **Correction / repair:** Replace $(-1)^p\sigma_\lambda \wedge De_\lambda$ by $(-1)^q\sigma_\lambda \wedge De_\lambda$.

CV-M02. Remark 3.2: the connection form A lives on Ω, not on M

- **Type:** notation error.
- **Precise location:** printed p. 256, Remark (3.2), first sentence.
- **Printed text:** If E is of rank $r = 1$, then $A \in \mathcal{C}^\infty_1(M,\mathbb{K})$ and $\mathrm{Hom}(E,E)$ is canonically isomorphic to the trivial bundle $M \times \mathbb{K}$.
- **Issue:** The connection form A was defined in § 2 relatively to a trivialization $\theta : E_{|\Omega} \to \Omega \times \mathbb{K}^r$ and is only defined on Ω; a line bundle need not be trivial on M, so there is in general no $A \in \mathcal{C}^\infty_1(M,\mathbb{K})$. Formula (3.4), on the same page, correctly writes $g \in \mathcal{C}^\infty(\Omega,\mathbb{K}^\star)$.
- **Correction / repair:** Replace $A \in \mathcal{C}^\infty_1(M,\mathbb{K})$ by $A \in \mathcal{C}^\infty_1(\Omega,\mathbb{K})$.

CV-M03. Proof of Prop. 3.6: the curvature term of the commutator has the wrong sign

- **Type:** mathematical error.
- **Precise location:** printed p. 257, proof of Proposition (3.6), second sum of the display for $\xi_D \cdot (\eta_D \cdot s) - \eta_D \cdot (\xi_D \cdot s)$.
- **Printed text:** $\simeq_\theta \ \sum_{j,k}\Big(\xi_k\frac{\partial\eta_j}{\partial x_k} - \eta_k\frac{\partial\xi_j}{\partial x_k}\Big)\frac{\partial\sigma}{\partial x_j} + \sum_{j,k}\frac{\partial A_j}{\partial x_k}(\xi_j\eta_k - \eta_j\xi_k)\cdot\sigma \ = \ d\sigma([\xi,\eta]) + dA(\xi,\eta)\cdot\sigma$.
- **Issue:** At the point z_0, where $A(z_0) = 0$, one has $\eta_D \cdot (\xi_D \cdot s) \simeq_\theta \sum_{j,k}\eta_k\big(\frac{\partial\xi_j}{\partial x_k}\frac{\partial\sigma}{\partial x_j} + \xi_j\frac{\partial^2\sigma}{\partial x_k\partial x_j} + \xi_j\frac{\partial A_j}{\partial x_k}\sigma\big)$, so the commutator equals $\sum_{j,k}\big(\xi_k\frac{\partial\eta_j}{\partial x_k} - \eta_k\frac{\partial\xi_j}{\partial x_k}\big)\frac{\partial\sigma}{\partial x_j} + \sum_{j,k}\frac{\partial A_j}{\partial x_k}(\xi_k\eta_j - \eta_k\xi_j)\,\sigma$. The second sum is $dA(\xi,\eta)\,\sigma$, since $dA(\xi,\eta) = \xi\cdot A(\eta) - \eta\cdot A(\xi) - A([\xi,\eta]) = \sum_{j,k}\frac{\partial A_j}{\partial x_k}(\xi_k\eta_j - \eta_k\xi_j)$ at z_0. The printed factor $(\xi_j\eta_k - \eta_j\xi_k)$ is the negative of the correct one, so the middle expression as printed equals $d\sigma([\xi,\eta]) - dA(\xi,\eta)\cdot\sigma$ and contradicts both the last equality and Prop. (3.6) itself. Only this intermediate display is affected; the statement of Prop. (3.6) is correct.
- **Correction / repair:** Replace $(\xi_j\eta_k - \eta_j\xi_k)$ by $(\xi_k\eta_j - \eta_k\xi_j)$ (equivalently, replace $\partial A_j/\partial x_k$ by $\partial A_k/\partial x_j$).

CV-M04. § 6: the argument v is missing on the left-hand side of Ψ

- **Type:** notation error.
- **Precise location:** printed p. 261, § 6, display defining the map Ψ on the universal covering.
- **Printed text:** $\Psi : \widetilde{M} \times E_a \longrightarrow E, \qquad \Psi(x, [\gamma]) = T_\gamma(v).$
- **Issue:** The domain $\widetilde{M} \times E_a$ consists of pairs $\big((x, [\gamma]), v\big)$, as the invariance formula printed two lines below makes explicit; the displayed left-hand side feeds only $(x, [\gamma])$ to Ψ while the right-hand side uses the undeclared vector v.
- **Correction / repair:** Replace $\Psi(x, [\gamma]) = T_\gamma(v)$ by $\Psi\big((x, [\gamma]), v\big) = T_\gamma(v)$.

CV-M05. Remark 7.5: sections along a curve are not elements of $\mathcal{C}^\infty(M, E)$

- **Type:** notation error.
- **Precise location:** printed p. 263, Remark (7.5), first sentence.
- **Printed text:** If $s, s' \in \mathcal{C}^\infty(M, E)$ are two sections of E along a smooth curve $\gamma : [0, 1] \longrightarrow M$, one can easily verify the formula.
- **Issue:** A section of E along γ is, by the definition of § 6 (p. 260), a map $s : [0, 1] \to E$ with $s(t) \in E_{\gamma(t)}$, i.e. a section of $\gamma^\star E$ over $[0, 1]$; the covariant derivative Ds/dt occurring in the formula is defined only for such sections. The remark is applied immediately afterwards to parallel frames along γ, which are in general not restrictions of global sections of E.
- **Correction / repair:** Replace '$s, s' \in \mathcal{C}^\infty(M, E)$ are two sections of E along a smooth curve γ' by '$s, s' \in \mathcal{C}^\infty([0, 1], \gamma^\star E)$ are two sections of E along a smooth curve γ' (or simply delete the symbol $\mathcal{C}^\infty(M, E)$).

CV-M06. Proof of Th. 9.8: 'Lemma I-2.10' does not exist and is not the Cauchy formula

- **Type:** cross-reference error.
- **Precise location:** printed p. 266, proof of Theorem (9.8), sentence following the display computing $d(d\sigma/\sigma)$.
- **Printed text:** because of the Cauchy residue formula (cf. Lemma I-2.10) and because σ is a submersion in a neighborhood of Z.
- **Issue:** (I-2.10) is a displayed formula on p. 16 (the definition of the coefficients T_I of a current), not a lemma, and has nothing to do with the Cauchy formula. The identity actually used, $d(dz/z) = 2\pi\mathrm{i}\,\delta_0$, follows from Corollary (I-3.4) (p. 21), which states that $E(z) = 1/\pi z$ satisfies $\partial E/\partial\overline{z} = \delta_0$; equivalently from Lemma (I-3.24) with $n = 1$.
- **Correction / repair:** Replace 'Lemma I-2.10' by 'Cor. I-3.4'.

CV-M07. Proof of Th. 9.8: (I-1.19) is the homotopy operator, not the inverse image of currents

- **Type:** cross-reference error.
- **Precise location:** printed p. 266, proof of Theorem (9.8), same sentence.
- **Printed text:** and because σ is a submersion in a neighborhood of Z (cf. (I-1.19)).
- **Issue:** (I-1.19) is the display defining the homotopy operator $K : C^s([0, 1] \times M, \Lambda^p T^\star) \to C^s(M, \Lambda^{p-1} T^\star)$ (p. 12). The facts used here are the inverse image of a current by a submersion and $F^\star[Z] = [F^{-1}(Z)]$, i.e. formulas (I-2.18) and (I-2.19) of § I-2.C.2 (p. 18), which give $\sigma^\star d(dz/z) = \sigma^\star(2\pi\mathrm{i}\,\delta_0) = 2\pi\mathrm{i}\,[Z]$.
- **Correction / repair:** Replace '(cf. (I-1.19))' by '(cf. (I-2.18), (I-2.19))'.

CV-M08. Formula (9.9): $\Theta(E)$ should be $\Theta(D)$

- **Type:** notation error.
- **Precise location:** printed p. 266, formula (9.9).
- **Printed text:** $du = 2\pi\mathrm{i}\,[Z] + \Theta(E)$.
- **Issue:** In §§ 2–9 the curvature is attached to a connection and denoted $\Theta(D)$; the notation $\Theta(E)$ is introduced only in Definition (12.1), for the Chern connection of a hermitian holomorphic bundle. Here M is a real differentiable manifold, E a $\mathcal{C}^\infty$ complex line bundle and D an arbitrary connection, so no bundle-intrinsic curvature $\Theta(E)$ is available; the line immediately above reads 'we have $dA = \Theta(D)$'.
- **Correction / repair:** Replace $\Theta(E)$ by $\Theta(D)$ in (9.9).

CV-M09. § 11: the Dolbeault–Grothendieck lemma is (I-3.29), not I-2.11

- **Type:** cross-reference error.
- **Precise location:** printed p. 268, sentence preceding Proposition (11.5).
- **Printed text:** The Dolbeault-Grothendieck lemma I-2.11 shows that the complex of sheaves $d'' : \mathcal{C}^\infty_{0,\bullet}(X, E)$ is a soft resolution of the sheaf $\mathcal{O}(E)$.
- **Issue:** (I-2.11) is the numbered display '$F : M_1 \longrightarrow M_2$' introducing a $\mathcal{C}^\infty$ map in § I-2.C.1 (p. 16). The Dolbeault–Grothendieck lemma is (I-3.29), stated on p. 28 in § I-3.E, which bears that title.
- **Correction / repair:** Replace 'I-2.11' by 'I-3.29'.

CV-M10. § 12: the factor H is missing in the last term of the display before (12.2)

- **Type:** mathematical error.
- **Precise location:** printed p. 269, third line of the display computing $\{Ds, t\} + (-1)^{\deg s}\{s, Dt\}$.
- **Printed text:** $= \big(d\sigma + \overline{H}^{-1} d'\overline{H} \wedge \sigma\big)^\dagger \wedge H\overline{\tau} + (-1)^{\deg\sigma}\sigma^\dagger \wedge \overline{\big(d\tau + \overline{H}^{-1} d'\overline{H} \wedge \tau\big)}$.
- **Issue:** By definition $\{s, Dt\} = \sigma^\dagger \wedge H\,\overline{D\tau}$, and the preceding line of the same display correctly reads $(-1)^{\deg\sigma}\sigma^\dagger \wedge (dH \wedge \overline{\tau} + H\,\overline{d\tau})$. Equality of the two lines uses $H\,\overline{\overline{H}^{-1} d'\overline{H} \wedge \tau} = d''H \wedge \overline{\tau}$, which requires the factor H; without it the term has the wrong size and the identity fails.
- **Correction / repair:** Replace the last term by $(-1)^{\deg\sigma}\sigma^\dagger \wedge H\,\overline{\big(d\tau + \overline{H}^{-1} d'\overline{H} \wedge \tau\big)}$.

CV-M11. § 13: zeroes and poles are treated in § II-6.2, not § II-5

- **Type:** cross-reference error.
- **Precise location:** printed p. 271, paragraph following Definition (13.1).
- **Printed text:** where the sets Z_j are the irreducible components of the sets of zeroes and poles of s (cf. § II-5).
- **Issue:** § II-5 is entitled 'Complex Spaces' (pp. 101–105) and contains nothing about zero and polar sets. The zero set Z_f, the polar set P_f and the divisor of a meromorphic function are defined and studied in § II-6.2, 'Divisors and Meromorphic Functions' (pp. 108–110: Th. II-6.11, (II-6.12), Th. II-6.13, (II-6.14)).
- **Correction / repair:** Replace '(cf. § II-5)' by '(cf. § II-6.2)'.

CV-M12. § 13: the Lelong–Poincaré equation is (III-2.15), not (II-5.32)

- **Type:** cross-reference error.
- **Precise location:** printed p. 271, sentence introducing the displayed Lelong–Poincaré equation.
- **Printed text:** The Lelong-Poincaré equation (II-5.32) gives $\frac{\mathrm{i}}{\pi}d'd''\log|\sigma| = \sum m_j[Z_j]$,.
- **Issue:** There is no statement (II-5.32): the labels of Chapter II, § 5 run only up to (5.10). The Lelong–Poincaré equation is (III-2.15), p. 143, which is precisely the statement quoted in the first sentence of § 13 ('extend the Lelong-Poincaré equation III-2.15 to any meromorphic section of a holomorphic line bundle').
- **Correction / repair:** Replace '(II-5.32)' by '(III-2.15)'.

CV-M13. Proof of Th. 13.4: 'bidimension $(1,1)$-current' should be 'bidegree $(1,1)$'

- **Type:** notation error.
- **Precise location:** printed p. 271, proof of Theorem (13.4).
- **Printed text:** and observe that the bidimension $(1,1)$-current $\mathrm{i}d'd''\log|s|^2 = d\big(\mathrm{i}d''\log|s|^2\big)$ has zero cohomology class.
- **Issue:** With the book's conventions (Chapter III, § 1) a current of bidimension (p,q) on an n-dimensional manifold has bidegree $(n-p,n-q)$. The current $\mathrm{i}d'd''\log|s|^2$ has bidegree $(1,1)$ and bidimension $(n-1,n-1)$; compare (III-2.15), where the right-hand side is placed in $\mathcal{D}'_{n-1,n-1}(X)$.
- **Correction / repair:** Replace 'the bidimension $(1,1)$-current' by 'the bidegree $(1,1)$ current'.

CV-M14. § 13: the exact sequence of divisors is (II-6.15), not (II-5.36)

- **Type:** cross-reference error.
- **Precise location:** printed p. 272, first sentence.
- **Printed text:** Let us consider the exact sequence $1 \to \mathcal{O}^\star \to \mathcal{M}^\star \to \mathrm{Div} \to 0$ already described in (II-5.36).
- **Issue:** There is no statement (II-5.36); the labels of Chapter II, § 5 stop at (5.10). The sequence $1 \longrightarrow \mathcal{O}^\star \longrightarrow \mathcal{M}^\star \xrightarrow{\mathrm{div}} \mathrm{Div} \longrightarrow 0$ is (II-6.15), p. 110.
- **Correction / repair:** Replace '(II-5.36)' by '(II-6.15)'.

CV-M15. Proof of Th. 13.9: 'Formula (12.9)' should be Formula (12.8)

- **Type:** cross-reference error.
- **Precise location:** printed p. 272, proof of Theorem (13.9), first sentence.
- **Printed text:** a) is an immediate consequence of Formula (12.9) and Th. 9.5, so we have only to prove the converse part b).
- **Issue:** (12.9) is a Remark (p. 270), stating that local frames cannot in general be simultaneously holomorphic and orthonormal; it does not give a). The statement needed — that $\mathrm{i}\Theta(E) = \mathrm{i}d'd''\varphi$ is a closed real $(1,1)$-form for a hermitian line bundle — is Formula (12.8), p. 269 (together with Th. 12.4).
- **Correction / repair:** Replace 'Formula (12.9)' by 'Formula (12.8)'.

CV-M16. Proof of Th. 13.9 b): (III-1.20) is not a proposition and does not give local potentials

- **Type:** cross-reference error.
- **Precise location:** printed p. 272, proof of Theorem (13.9) b), second sentence.
- **Printed text:** By Prop. III-1.20, there exist an open covering (V_α) of X and functions $\varphi_\alpha \in \mathcal{C}^\infty(V_\alpha, \mathbb{R})$ such that $\frac{\mathrm{i}}{2\pi} d'd''\varphi_\alpha = \omega$ on V_α.
- **Issue:** (III-1.20) is the titled paragraph '§ 1.20. Current of Integration on a Complex Submanifold' (p. 135) and is unrelated. The result used — every closed real $(1,1)$-form ω of class $\mathcal{C}^\infty$ is locally $\mathrm{i}d'd''u$ with u real and $\mathcal{C}^\infty$ — is proved in the discussion of § III-1.18 (p. 135), including the regularity statement 'If $\Theta \in \mathcal{C}^\infty_{1,1}(X)$, … $u \in \mathcal{C}^\infty(\Omega)$'. The neighbouring numbered statement, Prop. III-1.19, cannot be quoted instead: it assumes Θ positive and only yields $u \in \mathrm{Psh}(\Omega)$, whereas ω is here merely closed and real.
- **Correction / repair:** Replace 'Prop. III-1.20' by '§ III-1.18'.

CV-M17. Proof of Th. 13.9 b): 'Th. I-3.35' does not exist; the result is Th. I-5.16

- **Type:** cross-reference error.
- **Precise location:** printed p. 272, proof of Theorem (13.9) b), sentence 'If (V_α) is chosen such that…'.
- **Printed text:** then Th. I-3.35 yields holomorphic functions $f_{\alpha\beta}$ on $V_\alpha \cap V_\beta$ such that $2\,\mathrm{Re}\, f_{\alpha\beta} = \varphi_\beta - \varphi_\alpha$.
- **Issue:** There is no statement (I-3.35): the labels of Chapter I, § 3 stop at the Corollary (3.30), p. 29. The result used — if $H^1_{\mathrm{DR}}(X, \mathbb{R}) = 0$, every pluriharmonic function on X is the real part of a holomorphic function — is Theorem (I-5.16), p. 42, in § I-5.D 'Pluriharmonic Functions'.
- **Correction / repair:** Replace 'Th. I-3.35' by 'Th. I-5.16'.

CV-M18. § 13: ∂^0 is the class of $\mathcal{O}(-\Delta)$, not of $\mathcal{O}(\Delta)$

- **Type:** mathematical error.
- **Precise location:** printed p. 272, sentence following (13.7).
- **Printed text:** The connecting homomorphism ∂^0 is equal to the map $\Delta \longmapsto$ isomorphism class of $\mathcal{O}(\Delta)$ defined above.
- **Issue:** With the conventions of the book the connecting homomorphism of Th. IV-1.5 applied to the Čech complexes of $1 \to \mathcal{O}^\star \to \mathcal{M}^\star \to \mathrm{Div} \to 0$ sends Δ to the class of $(\delta u)_{\alpha\beta} = u_\beta u_\alpha^{-1}$, where $\mathrm{div}(u_\alpha) = \Delta$ on V_α (see (IV-5.2), $(\delta^0 c)_{\alpha\beta} = c_\beta - c_\alpha$, and § 8 p. 263, where $\delta u = (u_\alpha^{-1} u_\beta)$). But Example (13.5) defines $\mathcal{O}(\Delta)$ by the cocycle $g_{\alpha\beta} = u_\alpha / u_\beta$, whose class is the inverse. Hence $\partial^0(\Delta) = \{\mathcal{O}(\Delta)\}^{-1} = \{\mathcal{O}(-\Delta)\}$. Nothing that follows is affected, since the kernel and the image of ∂^0 are unchanged by $\Delta \mapsto -\Delta$.
- **Correction / repair:** Read '∂^0 is equal to the map $\Delta \mapsto$ isomorphism class of $\mathcal{O}(-\Delta) = \mathcal{O}(\Delta)^\star$', or state the identification with $\Delta \mapsto \{\mathcal{O}(\Delta)\}$ only up to inversion in $H^1(X, \mathcal{O}^\star)$.

CV-M19. Proof of Th. 13.9 b): the Čech class equals $-\{\omega\}$, not $\{\omega\}$

- **Type:** mathematical error.
- **Precise location:** printed p. 273, proof of Theorem (13.9) b), first sentence of the page.
- **Printed text:** Since $\omega = dA_\alpha$, it follows by (9.6) and (9.7) that the Čech cohomology class $\{\delta\big(\frac{1}{2\pi} \mathrm{Im}\, f_{\alpha\beta}\big)\}$ is equal to $\{\omega\} \in H^2(X, \mathbb{R})$.
- **Issue:** The isomorphism (9.6) is $-\partial$, as used explicitly in the proof of Th. 9.5 ('the image of $\{\frac{\mathrm{i}}{2\pi}\Theta(D)\}$ under (9.6) is the Čech 1-cocycle $\{-\frac{\mathrm{i}}{2\pi}(A_\beta - A_\alpha)\}$'). Here $(\delta A)_{\alpha\beta} = A_\beta - A_\alpha = d\big(\frac{1}{2\pi} \mathrm{Im}\, f_{\alpha\beta}\big)$, so the image of $\{\omega\}$ under (9.6) is $-\{d(\frac{1}{2\pi} \mathrm{Im}\, f_{\alpha\beta})\}$ and then, under (9.7), $-\{\delta(\frac{1}{2\pi} \mathrm{Im}\, f_{\alpha\beta})\}$. The rest of the proof is unaffected, since $-\{\omega\}$ is the image of an integral class if and only if $\{\omega\}$ is.

- **Correction / repair:** Replace 'is equal to $\{\omega\}$' by 'is equal to $-\{\omega\}$' (the argument only uses that this class is integral).

CV-M20. Theorem 14.5: wrong sign of the off-diagonal entry of $\Theta(E)$

- **Type:** mathematical error.
- **Precise location:** printed p. 274, Theorem (14.5), upper right entry of the matrix of $\Theta(E)$.
- **Printed text:** $\Theta(E) = \begin{pmatrix} \Theta(S) - \beta^\star \wedge \beta & D'_{\mathrm{Hom}(Q,S)}\beta^\star \\ d''\beta & \Theta(Q) - \beta \wedge \beta^\star \end{pmatrix}$.
- **Issue:** With $D_E = \begin{pmatrix} D_S & -\beta^\star \\ \beta & D_Q \end{pmatrix}$ (Th. 14.3) and $\deg \beta^\star = 1$, the Leibniz rule $D_S(\beta^\star \wedge u) = (D_{\mathrm{Hom}(Q,S)}\beta^\star) \wedge u - \beta^\star \wedge D_Q u$ gives for the (S,Q) block of D_E^2 the value $-D_{\mathrm{Hom}(Q,S)}\beta^\star$; since $d''\beta^\star = 0$, this is $-D'_{\mathrm{Hom}(Q,S)}\beta^\star$. This is exactly what the proof on the same page displays, $D_E^2 = \begin{pmatrix} D_S^2 - \beta^\star \wedge \beta & -(D_S \circ \beta^\star + \beta^\star \circ D_Q) \\ \beta \circ D_S + D_Q \circ \beta & D_Q^2 - \beta \wedge \beta^\star \end{pmatrix}$, together with the identity $D_{\mathrm{Hom}(Q,S)}\beta^\star = D_S \circ \beta^\star + \beta^\star \circ D_Q$ quoted on p. 275; the printed matrix therefore contradicts its own proof. The sign is also forced by $\Theta(E)^\star = -\Theta(E)$ (p. 262), which requires the (S,Q) entry to be $-(d''\beta)^\star$. Explicit check with S,Q trivial hermitian line bundles over $\mathbb{C}$ and $\beta = b\,dz$, $\beta^\star = \overline{b}\,d\overline{z}$: D_E^2 has (S,Q) entry $-\partial_z \overline{b}\,dz \wedge d\overline{z} = -d'\beta^\star$ and (Q,S) entry $\partial_{\overline{z}} b\,d\overline{z} \wedge dz = d''\beta$, and $\overline{\Theta_{21}} = -\Theta_{12}$ holds only with the minus sign.
- **Correction / repair:** Replace the $(1,2)$ entry $D'_{\mathrm{Hom}(Q,S)}\beta^\star$ by $-D'_{\mathrm{Hom}(Q,S)}\beta^\star$ (equivalently $-(d''\beta)^\star$).

CV-M21. Proof of Th. 14.3: $D_{\mathrm{Hom}(E,Q)}g^\star$ should be $D_{\mathrm{Hom}(Q,E)}g^\star$

- **Type:** notation error.
- **Precise location:** printed p. 274, proof of Theorem (14.3): the display for $D_E u = D_E(jj^\star u + g^\star g u)$ and the display 'A comparison with (14.4) yields'.
- **Printed text:** $\ldots + (D_{\mathrm{Hom}(E,Q)}g^\star) \wedge gu$ and $D_{\mathrm{Hom}(E,Q)}g^\star = j \circ \gamma + g^\star \circ \delta$.
- **Issue:** The adjoint $g^\star : Q \to E$ is a section of $\mathrm{Hom}(Q,E)$, so the induced connection acting on it is $D_{\mathrm{Hom}(Q,E)}$. The connection $D_{\mathrm{Hom}(E,Q)}$ acts on $g : E \to Q$ and is used correctly a few lines below in $D_{\mathrm{Hom}(E,Q)}g = -\beta \circ j^\star - \delta \circ g$. Statement d) of the theorem being proved reads $D'_{\mathrm{Hom}(Q,E)}g^\star = 0$, so the proof contradicts the statement.
- **Correction / repair:** In both displays replace $D_{\mathrm{Hom}(E,Q)}g^\star$ by $D_{\mathrm{Hom}(Q,E)}g^\star$.

CV-M22. Proof of Th. 14.5: the identities come from (4.4), not from (13.4)

- **Type:** cross-reference error.
- **Precise location:** printed p. 275, proof of Theorem (14.5), first line of the page.
- **Printed text:** Formula (13.4) implies $D_{\mathrm{Hom}(S,Q)}\beta = \beta \circ D_S + D_Q \circ \beta$, $D_{\mathrm{Hom}(Q,S)}\beta^\star = D_S \circ \beta^\star + \beta^\star \circ D_Q$.
- **Issue:** (13.4) is Theorem (13.4), the identity $c_1(E)_{\mathbb{R}} = \{\sum m_j [Z_j]\}$, and has nothing to do with these formulas. The identity actually used is (4.4), $(D_{\mathrm{Hom}(E,F)}v) \cdot s = D_F(v \cdot s) - (-1)^{\deg v} v \cdot D_E s$ (p. 258), applied with $\deg v = 1$.
- **Correction / repair:** Replace 'Formula (13.4)' by 'Formula (4.4)'.

CV-M23. Proof of Prop. 14.9 a): $\widehat{g} - g = j \circ v$ should read $\widehat{g}^\star - g^\star = j \circ v$

- **Type:** mathematical error.
- **Precise location:** printed p. 275, proof of Proposition (14.9), part a).
- **Printed text:** Then $gg^\star = g\widehat{g}^\star = \mathrm{Id}_Q$, thus $\widehat{g} - g = j \circ v$ for some section $v \in \mathcal{C}^\infty\big(X, \mathrm{Hom}(Q,S)\big)$.
- **Issue:** The projection $g : E \to Q$ belongs to the exact sequence and does not depend on the metric, so $\widehat{g} = g$ and $\widehat{g} - g \equiv 0$; moreover $\widehat{g} - g$ would be a morphism $E \to Q$ whereas $j \circ v : Q \to E$. What the preceding equality $gg^\star = g\widehat{g}^\star = \mathrm{Id}_Q$ gives is $g \circ (\widehat{g}^\star - g^\star) = 0$, i.e. $\widehat{g}^\star - g^\star$ takes its values in $\ker g = j(S)$, hence $\widehat{g}^\star - g^\star = j \circ v$. This is precisely what the next step uses: $d''\widehat{g}^\star = -j \circ \widehat{\beta}^\star$ and $d''g^\star = -j \circ \beta^\star$ give $\widehat{\beta}^\star - \beta^\star = -d''v$.
- **Correction / repair:** Replace '$\widehat{g} - g = j \circ v$' by '$\widehat{g}^\star - g^\star = j \circ v$'.

CV-M24. Remark 14.10: the split extension is an extra class besides $P(H^1)$

- **Type:** mathematical error.
- **Precise location:** printed p. 277, end of Remark (14.10), last sentence.
- **Printed text:** then $H^0\big(X, \mathrm{Aut}(S)\big)$, $H^0\big(X, \mathrm{Aut}(Q)\big)$ are equal to $\mathbb{C}^\star$ and the set of classes is the projective space $P\big(H^1(X, \mathrm{Hom}(Q,S))\big)$.
- **Issue:** For line bundles S, Q the group $\mathbb{C}^\star \times \mathbb{C}^\star$ acts on $H^1(X, \mathrm{Hom}(Q,S))$ by $\beta^\star \mapsto u \circ \beta^\star \circ v^{-1} = (u/v)\beta^\star$, i.e. by scalar multiplication. The quotient of a vector space by $\mathbb{C}^\star$ is $P(H^1)$ *together with* the orbit of 0; the projective space classifies the non-split extensions only, the zero class corresponding to $E = S \oplus Q$.
- **Correction / repair:** Replace 'the set of classes is the projective space $P(H^1(X, \mathrm{Hom}(Q,S)))$' by 'the set of classes of non-split extensions is the projective space $P(H^1(X, \mathrm{Hom}(Q,S)))$, the split extension $S \oplus Q$ giving one further class'.

CV-M25. Proof of Th. 15.10: the cohomology of spheres is (IV-14.7)–(IV-14.8), not IV-14.6

- **Type:** cross-reference error.
- **Precise location:** printed p. 280, proof of Theorem (15.10), sentence following the Mayer–Vietoris display.
- **Printed text:** Formula (15.11) follows easily by induction, thanks to our computation of the cohomology groups of spheres in IV-14.6.
- **Issue:** (IV-14.6) is the Corollary 'If X is a compact differentiable manifold, the cohomology groups $H^q(X, R)$ are finitely generated over R' (p. 237). The cohomology groups of spheres are computed in the Example (IV-14.7), 'Cohomology Groups of Spheres', whose result is formula (IV-14.8).
- **Correction / repair:** Replace 'IV-14.6' by 'IV-14.7' (or by '(IV-14.8)').

CV-M26. § 15.C: the reference '(13.3)' should be the exact sequence (15.3)

- **Type:** cross-reference error.
- **Precise location:** printed p. 281, sentence following Definition (15.13).
- **Printed text:** Note that (13.3) applied with $V = E_x^\star$ implies that the restriction of $\mathcal{O}_E(1)$ to each fiber $P(E_x^\star) \simeq \mathbb{P}^{r-1}$ coincides with the line bundle $\mathcal{O}(1)$ introduced in Def. 15.2.
- **Issue:** (13.3) is the identity $\mathrm{i}\Theta(E) = -\mathrm{i}d'd'' \log|s|^2$ for a non-vanishing holomorphic section of a hermitian line bundle and cannot imply this. The statement used is the second exact sequence of (15.3), $0 \to H^\star \to \underline{V}^\star \to \mathcal{O}(1) \to 0$ over $P(V)$: with $V = E_x^\star$ one has $\underline{V}^\star = P(E_x^\star) \times E_x = (\pi^\star E)_{|P(E_x^\star)}$ and $H^\star_{[\xi]} = \xi^{-1}(0) = S_{[\xi]}$, whence $\mathcal{O}(1) = \underline{V}^\star / H^\star = \mathcal{O}_E(1)_{|P(E_x^\star)}$.

- **Correction / repair:** Replace '(13.3)' by '(15.3)'.

CV-M27. Proof of Th. 15.14: $\mathcal{O}(1)$ printed for $\mathcal{O}(k)$ in the direct image

- **Type:** mathematical error.
- **Precise location:** printed p. 282, proof of Theorem (15.14), the chain of equalities for $H^0(\pi^{-1}(U), \mathcal{O}_E(k))$ and the sentence following it.
- **Printed text:** $H^0\big(\pi^{-1}(U), \mathcal{O}_E(k)\big) = H^0\big(U \times P(V^\star), p^\star\mathcal{O}(1)\big) = \mathcal{O}_X(U) \otimes H^0\big(P(V^\star), \mathcal{O}(1)\big) = \mathcal{O}_X(U) \otimes S^kV = H^0(U, S^kE)$.
- **Issue:** Since $\mathcal{O}_E(1) = p^\star\mathcal{O}(1)$, one has $\mathcal{O}_E(k) = p^\star\mathcal{O}(k)$, and by Th. 15.5 $H^0\big(P(V^\star), \mathcal{O}(k)\big) \simeq S^k(V^\star)^\star = S^kV$. As printed, the first two equalities are false for $k \neq 1$, because $H^0\big(P(V^\star), \mathcal{O}(1)\big) = V \neq S^kV$. That $\mathcal{O}(k)$ is meant is confirmed by the last equality of the chain and by the trailing sentence, which speaks of 'a family of sections $H^0(\{x\} \times P(V^\star), \mathcal{O}(k))$'.
- **Correction / repair:** In the display replace $p^\star\mathcal{O}(1)$ by $p^\star\mathcal{O}(k)$ and $H^0\big(P(V^\star), \mathcal{O}(1)\big)$ by $H^0\big(P(V^\star), \mathcal{O}(k)\big)$; in the following sentence read '$p^\star\mathcal{O}(k)$ coincides with $\mathcal{O}(k)$ on each fiber … any section of $p^\star\mathcal{O}(k)$ over $U \times P(V^\star)$'.

CV-M28. Proof of Prop. 16.4: the independence of v_W from W is not proved

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 284, proof of Proposition (16.4), last sentence.
- **Printed text:** is generated by the images of the constant sections of $\underline{V}$. Since W is arbitrary, Prop. 16.4 follows immediately.
- **Issue:** The computation shows that, for each decomposition $V = W \oplus W'$ with $\operatorname{codim} W = r - 1$ and each $\sigma \in H^0(G_r(V), Q)$, there is a unique $v_W \in V$ whose image in Q coincides with σ on $P(W^\star) \subset G_r(V)$. Surjectivity of $V \to H^0(G_r(V), Q)$ requires in addition that v_W be independent of W, and this does not follow 'immediately': for two such subspaces one only gets $v_{W_1} - v_{W_2} \in x$ for every $x \in G_r(V)$ with $x \subset W_1 \cap W_2$, and for $r \geqslant 2$ two general W_1, W_2 admit at most one such x, so that only $v_{W_1} - v_{W_2} \in W_1 \cap W_2$ is obtained. (Injectivity is clear, since $\bigcap_{x \in G_r(V)} x = 0$.)
- **Correction / repair:** Insert the missing step, e.g.: $W \mapsto v_W$ is holomorphic on $G_{r-1}(V)$ (locally v_W is the unique solution of finitely many linear conditions $v \equiv \sigma(x_i) \bmod x_i$ for subspaces $x_i \subset W$ with $\bigcap_i x_i = 0$, depending holomorphically on W), hence constant because $G_{r-1}(V)$ is compact and connected; alternatively, join W_1 to W_2 by a chain of subspaces with pairwise intersections of dimension $> d - r$.

CV-M29. § 16.C generalizes § 15.B, not § 15.C

- **Type:** cross-reference error.
- **Precise location:** printed p. 285, § 16.C, first sentence.
- **Printed text:** We shall generalize our curvature computations of §15.C to the present situation.
- **Issue:** The computation generalized here is that of § 15.B, 'Curvature of the Tautological Line Bundle' (pp. 279–280), where $\Theta(\mathcal{O}(1))$ and $\Theta(H)$ over $P(V)$ are obtained from $d''g^\star = -j \circ \beta^\star$ and $\Theta(H) = \beta \wedge \beta^\star$; the case $r = d - 1$ of § 16.C is exactly that situation, since $G_{d-1}(V) = P(V)$, $S = \mathcal{O}(-1)$, $Q = H$ (p. 284). § 15.C deals instead with the tautological line bundle $\mathcal{O}_E(1)$ over $P(E^\star)$ for a vector bundle E over a manifold X.
- **Correction / repair:** Replace '§ 15.C' by '§ 15.B'.

CV-M30. § 16.C: 'Formula (13.3)' should be Th. 14.3 d) (and (14.6), (14.7))

- **Type:** cross-reference error.
- **Precise location:** printed p. 286, § 16.C, sentence introducing the displays preceding (16.9)–(16.10).
- **Printed text:** so that $\zeta_{jk} = -\overline{z}_{jk} + O(|z|^2)$. Formula (13.3) yields $d''g_a^\star \cdot \widetilde{e}_j = -\sum_{r+1\leqslant k\leqslant d} d\overline{z}_{jk} \otimes \varepsilon_k$,.
- **Issue:** (13.3) is the identity $\mathrm{i}\Theta(E) = -\mathrm{i}d'd'' \log |s|^2$ (p. 271) and plays no role here. What is used to read $\beta^\star$ off $d''g^\star$ is Th. 14.3 d), $d''g^\star = -j \circ \beta^\star$ — exactly as quoted in the parallel computation of § 15.B, p. 280 ('Th. 14.3 and (14.7) imply $d''g^\star = -j \circ \beta^\star$, $\Theta(H) = \beta \wedge \beta^\star$') — and then (14.7) and (14.6), which give $\Theta(Q) = \beta \wedge \beta^\star$ and $\Theta(S) = \beta^\star \wedge \beta$ because $\underline{V}$ is flat.
- **Correction / repair:** Replace 'Formula (13.3) yields' by 'Th. 14.3 d) and (14.6), (14.7) yield'.

Typographical and editorial corrections

- **CV-T01.** printed p. 254, Example (1.3), first sentence. *Printed:* if $\tau_\alpha : V_\alpha \longrightarrow \mathbb{R}^n$ is a collection of coordinate charts on M, then $\theta_\alpha = \pi \times d\tau_\alpha : TM_{|V_\alpha} \longrightarrow V_\alpha \times \mathbb{R}^m$ define trivializations of TM. *Issue:* M is declared on p. 253 to be a $\mathcal{C}^\infty$ manifold of dimension m, and the fibre of the trivialization in the same sentence is written $\mathbb{R}^m$; the charts must therefore take their values in $\mathbb{R}^m$. The letter n is not defined anywhere in Chapter V, § 1. *Correction:* Replace $\tau_\alpha : V_\alpha \longrightarrow \mathbb{R}^n$ by $\tau_\alpha : V_\alpha \longrightarrow \mathbb{R}^m$.
- **CV-T02.** printed pp. 255 and 259, running heads. *Printed:* p. 255, running head: '§ 3. Curvature Tensor'; p. 259, running head: '§ 6. Parallel Translation and Flat Vector Bundles'. *Correction:* Set the running head of p. 255 to '§ 2. Linear Connections' and that of p. 259 to '§ 5. Pull-Back of a Vector Bundle'.
- **CV-T03.** printed p. 259, § 5, first paragraph, sentence 'commutes and such that…'. *Printed:* commutes and such that $\Psi : \widetilde{E}_x \longrightarrow E_{\psi(x)}$ is an isomorphism for every $x \in M$. *Issue:* $\widetilde{E}$ is a vector bundle over $\widetilde{M}$ and $\psi : \widetilde{M} \to M$; the fibre $\widetilde{E}_x$ and the point $\psi(x)$ only make sense for $x \in \widetilde{M}$. *Correction:* Replace 'for every $x \in M$' by 'for every $x \in \widetilde{M}$'.
- **CV-T04.** printed p. 261, § 7, last sentence of the first paragraph. *Printed:* The notion of a euclidean (real) vector bundle is similar, so we leave the reader adapt our notations to that case. *Issue:* Ungrammatical: 'leave the reader adapt'. *Correction:* Replace by 'so we leave it to the reader to adapt our notations to that case'.
- **CV-T05.** printed p. 261, proof of Proposition (6.7), last sentence. *Printed:* Hence De_v is parallel for any fixed vector $v \in E_a$; Prop. 6.7 follows. *Issue:* The preceding line establishes $De_v(x) \cdot \xi = (D/dt)\Phi(\gamma(t), v)_{|t=1} = 0$ for every tangent vector ξ, i.e. $De_v = 0$. 'Parallel' was defined in the statement of Prop. (6.7) by $De_\lambda = 0$, so the section that is parallel is e_v, not De_v. *Correction:* Replace 'Hence De_v is parallel' by 'Hence e_v is parallel' (equivalently 'Hence $De_v = 0$').
- **CV-T06.** printed p. 262, paragraph following (7.4) Special case. *Printed:* If $\theta, \widetilde{\theta} : E_{|\Omega} \to \Omega$ are two such trivializations on a simply connected open subset $\Omega \subset M$, then $g = \widetilde{\theta} \circ \theta^{-1} = e^{\mathrm{i}\varphi}$. *Issue:* A trivialization of the line bundle E over Ω maps onto $\Omega \times \mathbb{C}$ (Definition of § 1, p. 253, and the use of $g = \widetilde{\theta} \circ \theta^{-1}$ just below); the factor $\times\,\mathbb{C}$ has been dropped. *Correction:* Replace $E_{|\Omega} \to \Omega$ by $E_{|\Omega} \to \Omega \times \mathbb{C}$.
- **CV-T07.** printed p. 265, proof of Theorem (9.5), display defining $c_1(E)$. *Printed:* $c_1(E) = \partial\{(g_{\alpha\beta})\} = \{(\delta u)_{\alpha\beta\gamma})\} \in H^2(M, \mathbb{Z})$. *Issue:* The second group has one closing parenthesis too many (or, equivalently, lacks the opening parenthesis of the cochain), unlike $\partial\{(g_{\alpha\beta})\}$ in the same line. *Correction:* Replace $\{(\delta u)_{\alpha\beta\gamma})\}$ by $\{((\delta u)_{\alpha\beta\gamma})\}$.
- **CV-T08.** printed p. 269, sentence following (12.3). *Printed:* It is clear from this relations that $D'^2 = D''^2 = 0$. *Issue:* Number disagreement; two relations, (12.2) and (12.3), are referred to. *Correction:* Replace 'from this relations' by 'from these relations'.
- **CV-T09.** printed p. 269, same sentence following (12.3). *Printed:* Consequently D^2 is given by to $D^2 = D'D'' + D''D'$, and the curvature tensor $\Theta(E)$ is of type $(1, 1)$. *Issue:* The preposition is duplicated.

Correction: Replace 'is given by to' by 'is given by'.

- **CV-T10.** printed p. 272, Theorem (13.9) a). *Printed:* a) For any hermitian line bundle E over M, the Chern curvature form $\frac{\mathrm{i}}{2\pi}\Theta(E)$ is a closed real $(1,1)$-form whose De Rham cohomology class is the image of an integral class. *Issue:* The theorem begins 'Let X be an arbitrary complex manifold'; part b) and the proof are stated over X. The letter M, used in §§1–9 for a real differentiable manifold, is not defined in this statement. *Correction:* Replace 'over M' by 'over X'.

- **CV-T11.** printed p. 273, Theorem (14.3), line following the matrix of D_E. *Printed:* where $\beta \in \mathcal{C}^\infty_{1,0}\big(X, \mathrm{Hom}(S,Q)\big)$ is called the second fundamental of S in E. *Issue:* The word 'form' is missing; the object is the second fundamental *form*, as it is called on p. 275 ('the second fundamental form β vanishes identically if and only if…'). *Correction:* Replace 'the second fundamental of S in E' by 'the second fundamental form of S in E'.

- **CV-T12.** printed p. 280, proof of Theorem (15.10), paragraph preceding (15.12). *Printed:* It will follow necessarily that h^k is a generator of $H^{2k}(\mathbb{P}^n,\mathbb{Z})$ if we can prove that h^n is the fundamental class in $H^{2n}(\mathbb{P},\mathbb{Z})$. *Issue:* The exponent of the projective space is missing in the last group; the space is $\mathbb{P}^n$, as everywhere else in the sentence. *Correction:* Replace $H^{2n}(\mathbb{P},\mathbb{Z})$ by $H^{2n}(\mathbb{P}^n,\mathbb{Z})$.

- **CV-T13.** printed p. 282, paragraph 'Fix a point $x_0 \in X$…'. *Printed:* Then Prop. 12.10 implies the existence of a normal coordinate frame $(e_\lambda)_{1\leqslant\lambda\leqslant r})$ of E at x_0. *Issue:* There is one closing parenthesis too many after the index range. *Correction:* Replace $(e_\lambda)_{1\leqslant\lambda\leqslant r})$ by $(e_\lambda)_{1\leqslant\lambda\leqslant r}$.

- **CV-T14.** printed p. 282, sentence introducing the dual metric. *Printed:* The hermitian matrix $(\langle e^\star_\lambda, e^\star_\mu\rangle)$ is just the congugate of the inverse of matrix $(\langle e_\lambda, e_\mu\rangle)$. *Issue:* Misspelling of 'conjugate'; the article before 'matrix' is also missing. The mathematical content is correct: $\langle e^\star_\lambda, e^\star_\mu\rangle = \overline{(H^{-1})}_{\lambda\mu}$. *Correction:* Replace 'the congugate of the inverse of matrix' by 'the conjugate of the inverse of the matrix'.

- **CV-T15.** printed p. 283, § 16.A, sentence beginning 'Indeed, let…', just before (16.1). *Printed:* Indeed, let $(e_1,\ldots,e_r)$ and $(e_{r+1},\ldots,e_n)$ be respective bases of W and a. *Correction:* Replace $(e_{r+1},\ldots,e_n)$ by $(e_{r+1},\ldots,e_d)$.

Chapter VI. Hodge Theory

Range checked: printed pp. 287–328.

Mathematical corrections, cross-references and proof clarifications

CVI-M01. §1: the letter u denotes both a section of E and a scalar function

- **Type:** notation error.

- **Precise location:** printed p. 287, §1, the sentence and display between Definition (1.1) and formula (1.2).

- **Printed text:** If $t \in \mathbb{K}$ is a parameter, a simple calculation shows that $e^{-tu(x)}P(e^{tu(x)})$ is a polynomial of degree δ in t, of the form $e^{-tu(x)}P(e^{tu(x)}) = t^\delta\sigma_P(x, du(x))+$ lower order terms $c_j(x)t^j$, $j<\delta$.

- **Issue:** In (1.1) $u = (u_\mu)_{1\leqslant\mu\leqslant r}$ is the section of E on which P acts, whereas here u has to be a scalar function, since e^{tu} and $du(x) \in T^\star_{M,x}$ are formed. Moreover P is applied to the function $e^{tu(x)}$, which is not a section of E as soon as $r > 1$: the display only makes sense as an identity of operators $s \mapsto e^{-tu}P(e^{tu}s)$, the coefficient of t^j, $j<\delta$, being a differential operator of order $\leqslant \delta - j$ and not a function $c_j(x)$.

- **Correction / repair:** Use a different letter for the scalar function and display the operand, e.g. 'if $t \in \mathbb{K}$ and $f \in \mathcal{C}^\infty(M,\mathbb{R})$, then $e^{-tf}\circ P \circ e^{tf} = t^\delta\sigma_P(x, df(x)) + \sum_{j<\delta} t^jQ_j$, where Q_j is a differential operator of order $\leqslant \delta - j$'.

CVI-M02. §2: Sobolev spaces defined only for $k > 0$ although $W^0 = L^2$ is used

- **Type:** mathematical error.
- **Precise location:** printed p. 289, §2, first paragraph, first sentence.
- **Printed text:** For any positive integer k and any hermitian bundle $F \to M$, we denote by $W^k(M, F)$ the Sobolev space of sections $s : M \to F$ whose derivatives up to order k are in L^2.
- **Issue:** The space $W^0(M, F) = L^2(M, F)$ and the norm $\| \|_0$ are used immediately afterwards: in Gårding's inequality (2.3) ('for any $u \in W^0(M, F)$', $\|u\|_0$), in the statement of Corollary (2.4) ('as an orthogonal direct sum in $W^0(M, F) = L^2(M, F)$') and in (2.5)-(2.6). Rellich's lemma (2.2) is even stated 'for every integer k'.
- **Correction / repair:** Replace 'For any positive integer k' by 'For any integer $k \geqslant 0$'.

CVI-M03. Theorem (3.9): d is not defined on E-valued forms; delete $\otimes E$

- **Type:** mathematical error.
- **Precise location:** printed p. 292, statement of Theorem (3.9).
- **Printed text:** (3.9) Theorem. The operator $d^\star = (-1)^{mp+1} \star d\star$ is the formal adjoint of the exterior derivative d acting on $\mathcal{C}^\infty(M, \Lambda^p T_M^\star \otimes E)$.
- **Issue:** At this stage E carries only a hermitian metric and no connection, so the exterior derivative d has no meaning on $\mathcal{C}^\infty(M, \Lambda^p T_M^\star \otimes E)$; a hermitian connection D_E is introduced only on p. 294, and the E-valued statement is precisely (3.13), $D_E^\star = (-1)^{mp+1} \star D_E\star$. The proof of (3.9) is the scalar one: it starts from $u \in \mathcal{C}^\infty(M, \Lambda^p T_M^\star)$ and uses the scalar identity $\langle du, v\rangle\, dV = du \wedge \star v$.
- **Correction / repair:** Delete '$\otimes E$' in the statement: '... the formal adjoint of the exterior derivative d acting on $\mathcal{C}^\infty(M, \Lambda^p T_M^\star)$'.

CVI-M04. Proof of Theorem (3.9): the reference to (3.4) should be to (3.5)

- **Type:** cross-reference error.
- **Precise location:** printed p. 293, first lines, end of the proof of Theorem (3.9).
- **Printed text:** by Stokes' formula. Therefore (3.4) implies $\langle\!\langle du, v\rangle\!\rangle = -(-1)^p(-1)^{p(m-1)} \int_M u \wedge \star\star\, d \star v = (-1)^{mp+1}\langle\!\langle u, \star d \star v\rangle\!\rangle$.
- **Issue:** The step consists in writing $d\star v = (-1)^{(m-p)(m-1)} \star\star d\star v = (-1)^{p(m-1)} \star\star d\star v$ for the $(m-p)$-form $d\star v$, i.e. it uses the identity $\star\star t = (-1)^{p(m-1)} t$, which is formula (3.5) (note that the exponent $(-1)^{p(m-1)}$ is exactly the one of (3.5)). Formula (3.4) is only the expression of $\star v$ in terms of the components v_I and is not what is invoked here.
- **Correction / repair:** Replace '(3.4)' by '(3.5)'.

CVI-M05. (3.20): the undefined operator $\delta_{E^\star}$ should be $D^\star_{E^\star}$

- **Type:** notation error.
- **Precise location:** printed p. 296, second line of the displayed group (3.20).
- **Printed text:** $\delta_{E^\star}(\# s) = (-1)^{p+1} \#\, D_E s,$.
- **Issue:** No operator δ has been defined at this stage: the formal adjoint of a connection is written $D^\star$ throughout §3 (see (3.13)-(3.15)), and the notation $\delta = - \star d\star$ is introduced only in (5.3), p. 300, where it is the adjoint of d because $m = 2n$ is even. Degrees confirm the intended operator: $\# D_E s$ is an $(m-p-1)$-form, so the left-hand side must lower the degree of $\# s$ by one; and the third line $\Delta_{E^\star}(\# s) = \#\Delta_E s$ follows from the first two only if the second one reads $D^\star_{E^\star}$.

- **Correction / repair:** Replace '$\delta_{E^\star}(\#s)$' by '$D^\star_{E^\star}(\#s)$'.

CVI-M06. Example (4.7): the condition $\lambda < 1$ should be $0 < |\lambda| < 1$

- **Type:** mathematical error.
- **Precise location:** printed p. 297, Example (4.7), first sentence.
- **Printed text:** where $\Gamma = \{\lambda^n \ ; \ n \in \mathbb{Z}\}$, $\lambda < 1$, acts as a group of homotheties.
- **Issue:** As printed the condition admits $\lambda = 0$, for which Γ is not a group of automorphisms of $\mathbb{C}^2 \setminus \{0\}$, and $\lambda = -1$, for which $\Gamma = \{\pm 1\}$ acts with non-compact quotient $(\mathbb{C}^2 \setminus \{0\})/\{\pm 1\}$, so that X is not a compact surface and the identification $X \simeq S^1 \times S^3$ fails. What is needed is that λ be a contraction, as stated for the general case at the end of the same example ('$0 < |\lambda| < 1$').
- **Correction / repair:** Replace '$\lambda < 1$' by '$\lambda \in \mathbb{C}$, $0 < |\lambda| < 1$'.

CVI-M07. Proof of (6.4): the expansion of $d''^\star$ omits first-order terms

- **Type:** proof gap / clarification.
- **Precise location:** printed pp. 305-306, proof of Theorem (6.4), display of $d''^\star u$ and the sentence following it.
- **Printed text:** $d''^\star u = -\sum_{I,J,k} \frac{\partial u_{I,J}}{\partial z_k} \frac{\partial}{\partial \overline{z}_k} \lrcorner (dz_I \wedge d\overline{z}_J) + \sum_{I,J,K,L} b_{IJKL}\, u_{IJ}\, dz_K \wedge d\overline{z}_L$, where the coefficients b_{IJKL} are obtained by derivation of the a_{IJKL}'s. Therefore $b_{IJKL} = O(|z|)$.
- **Issue:** When integrating by parts in $\int \sum a_{IJKL} (d''w)_{IJ} \overline{u}_{KL}\, dV$ the derivative also falls on $\overline{u}_{KL}$, which produces first-order terms $\sum b'_{IJKLk}\, \partial u_{IJ}/\partial z_k\, dz_K \wedge d\overline{z}_L$ with $b'_{IJKLk} = O(|z|^2)$, besides the zero-order terms $b_{IJKL} u_{IJ}$ with $b_{IJKL} = O(|z|)$ coming from the derivatives of the a_{IJKL} and of the density of dV. Example: for $n = 1$, $\omega = ih\, dz \wedge d\overline{z}$ with $h = 1 + O(|z|^2)$ and $u = f\, d\overline{z}$, one finds $d''^\star u = -h^{-1} \partial f/\partial z = -\partial f/\partial z + O(|z|^2)\, \partial f/\partial z$, i.e. a first-order remainder and no term of the form $b\, f$ at all. The conclusion is not affected: the extra terms contribute $O(|z|^2)\, \partial \omega/\partial z_k = O(|z|^3)$ to $[d''^\star, L]u$, so $[d''^\star, L]u = i\, d'u + O(|z|)$ still holds.
- **Correction / repair:** Add the missing terms to the display: '$+\sum_{I,J,K,L,k} b'_{IJKLk} \frac{\partial u_{IJ}}{\partial z_k}\, dz_K \wedge d\overline{z}_L$ with $b'_{IJKLk} = O(|z|^2)$', and note that they too contribute only $O(|z|)$ to $[d''^\star, L]u$.

CVI-M08. Proof of Theorem (6.4): $\int_M$ should be $\int_X$

- **Type:** notation error.
- **Precise location:** printed p. 305, proof of Theorem (6.4), display of $\langle\langle u, v\rangle\rangle$ in a geodesic coordinate system.
- **Printed text:** $\langle\langle u, v\rangle\rangle = \int_M \Big(\sum_{I,J} u_{IJ} \overline{v}_{IJ} + \sum_{I,J,K,L} a_{IJKL} u_{IJ} \overline{v}_{KL} \Big) dV$.
- **Issue:** In §§4-6 the manifold is the complex manifold X ('(6.4) Theorem. If (X, ω) is Kähler', 'a geodesic coordinate system at a point $x_0 \in X$'); M denotes the real Riemannian manifold of §§1-3 and is not defined here. The analogous integrals on p. 308 are written $\int_X$.
- **Correction / repair:** Replace $\int_M$ by $\int_X$.

CVI-M09. Proof of (6.8): dV_0 should be $\omega_0^n/n!$, not $\omega_0^n/2^n n!$

- **Type:** mathematical error.
- **Precise location:** printed p. 307, proof of Theorem (6.8), sentence defining the operators associated to ω_0.
- **Printed text:** Denote by $\langle\ ,\ \rangle_0$, L_0, Λ_0, $d'^\star_0$, $d''^\star_0$ the inner product and the operators associated to the constant metric ω_0, and let $dV_0 = \omega_0^n/2^n n!$.

- **Issue:** By (4.2) the volume form of a hermitian metric is $\omega^n/n!$, and the proof of Lemma (6.9) uses $dV = \lambda_1 \cdots \lambda_n \, dV_0$ for $\omega = i \sum \lambda_j \zeta_j^\star \wedge \overline{\zeta}_j^\star$, $\omega_0 = i \sum \zeta_j^\star \wedge \overline{\zeta}_j^\star$; since $\omega^n/n! = \lambda_1 \cdots \lambda_n \, \omega_0^n/n!$, this forces $dV_0 = \omega_0^n/n!$. With the printed normalisation one has $\omega_0^n/2^n n! = dx_1 \wedge dy_1 \wedge \cdots \wedge dx_n \wedge dy_n$, i.e. $dV(x_0) = 2^n \, dV_0(x_0)$ although $\omega(x_0) = \omega_0(x_0)$, and the identity of Lemma (6.9), $\langle u, v\rangle \, dV = \langle u - [\gamma, \Lambda_0]u, v\rangle_0 \, dV_0 + O(|z|^2)$, would be false by the factor 2^n. (Lemma (6.10) is unaffected, since only the formal adjoint for $\langle\!\langle \ , \ \rangle\!\rangle_1$ is used, and it does not change when the inner product is multiplied by a constant.)

- **Correction / repair:** Replace '$dV_0 = \omega_0^n/2^n n!$' by '$dV_0 = \omega_0^n/n!$'.

CVI-M10. (6.12): wrong sign in the middle member of $[C, L_0]$

- **Type:** mathematical error.

- **Precise location:** printed p. 308, second line of the displayed system (6.12).

- **Printed text:** $[C, L_0] = \big[L_0, [d_0''^\star, \gamma]\big] = \big[\gamma, [L_0, d_0''^\star]\big]$ (since $[\gamma, L_0] = 0$).

- **Issue:** $C = [d_0''^\star, \gamma]$ is of type $(1, 0)$, hence of odd total degree 1, while L_0 has degree 2; by the graded commutator (5.6), $[C, L_0] = CL_0 - L_0C = -[L_0, C] = -\big[L_0, [d_0''^\star, \gamma]\big]$. As printed, the chain therefore asserts $[C, L_0] = -[C, L_0]$, i.e. $[C, L_0] = 0$, contradicting (6.13), $[C, L_0] = i\, d'\omega$. The third member is the correct one: the Jacobi identity (5.7) applied to $d_0''^\star, \gamma, L_0$ (all the signs $(-1)^{ab}$ being $+1$ here) gives $\big[d_0''^\star, [\gamma, L_0]\big] + \big[\gamma, [L_0, d_0''^\star]\big] + \big[L_0, [d_0''^\star, \gamma]\big] = 0$, whence $[C, L_0] = \big[\gamma, [L_0, d_0''^\star]\big]$ when $[\gamma, L_0] = 0$, as required by (6.13) and by the final formula $[d''^\star, L] = i(d' + \tau)$.

- **Correction / repair:** Replace the middle member $\big[L_0, [d_0''^\star, \gamma]\big]$ by $\big[[d_0''^\star, \gamma], L_0\big]$, i.e. insert a minus sign.

CVI-M11. § 7: 'Corollary 6.8' should be Corollary 6.15

- **Type:** cross-reference error.

- **Precise location:** printed p. 309, § 7, second paragraph (after the definition of $D_E^\star$, $D_E'^\star$, $D_E''^\star$).

- **Printed text:** Corollary 6.8 implies that the principal part of the operator $\Delta_E'' = D''D_E''^\star + D_E''^\star D''$ is one half that of Δ_E.

- **Issue:** (6.8) is a *Theorem* (p. 306), which introduces the torsion operator $\tau = [\Lambda, d'\omega]$ and states the commutation relations $[d''^\star, L] = \mathrm{i}(d' + \tau)$, etc.; it says nothing about principal parts. The statement invoked here is Corollary 6.15 (p. 309, immediately above § 7): $\Delta = \Delta' + \Delta'' - [d', \overline{\tau}^\star] - [d'', \tau^\star]$, "therefore Δ', Δ'' and $\frac{1}{2}\Delta$ no longer coincide, but they differ by linear differential operators of order 1 only".

- **Correction / repair:** Replace 'Corollary 6.8' by 'Corollary 6.15'.

CVI-M12. § 8.1: unresolved reference 'Exercise 13.??'

- **Type:** cross-reference error.

- **Precise location:** printed p. 310, § 8.1, last sentence (after (8.3)).

- **Printed text:** It can be shown from the Hodge-Frölicher spectral sequence (see § 11 and Exercise 13.??) that $H_{\mathrm{BC}}^{p,q}(X, \mathbb{C})$ is always finite dimensional if X is compact.

- **Issue:** Unresolved cross-reference: Chapter VI ends with § 12 (p. 328) and contains no exercises (exercises occur only in Ch. I § 8 and Ch. II § 11). The finite dimensionality announced here is precisely what is proved in § 12.1: Theorem 12.4 (p. 326), "If X is compact, then $\dim H_{\mathrm{BC}}^{p,q}(X, \mathbb{C}) < +\infty$".

- **Correction / repair:** Replace '(see § 11 and Exercise 13.??)' by '(see § 11 and Th. 12.4)'.

CVI-M13. Proof of Theorem 7.3: s_2 must take values in $E^\star$

- **Type:** mathematical error.
- **Precise location:** printed p. 310, proof of Theorem 7.3, first sentence.
- **Printed text:** Let $s_1 \in \mathcal{C}^\infty(X, \Lambda^{p,q}T_X^\star \otimes E)$, $s_2 \in \mathcal{C}^\infty(X, \Lambda^{n-p,n-q-1}T_X^\star \otimes E)$. Since $s_1 \wedge s_2$ is of bidegree $(n, n-1)$, we have.
- **Issue:** The product $s_1 \wedge s_2$ used in (7.4) and in the subsequent application of Stokes' formula is scalar valued, hence uses the duality $E \times E^\star \to \mathbb{C}$; with s_2 valued in E it would be a section of $\Lambda^{n,n-1}T_X^\star \otimes E \otimes E$. The pairing being factorized is $H^{p,q}(X, E) \times H^{n-p,n-q}(X, E^\star) \to \mathbb{C}$.
- **Correction / repair:** Replace $\mathcal{C}^\infty(X, \Lambda^{n-p,n-q-1}T_X^\star \otimes E)$ by $\mathcal{C}^\infty(X, \Lambda^{n-p,n-q-1}T_X^\star \otimes E^\star)$.

CVI-M14. Proof of Corollary 8.7: (8.5 b″), (8.5 c) should be (8.6 b″), (8.6 c)

- **Type:** cross-reference error.
- **Precise location:** printed p. 312, proof of Corollary 8.7, second sentence.
- **Printed text:** the injectivity means nothing more than the equivalence (8.5 b″) ⇔ (8.5 c).
- **Issue:** (8.5) is the Hodge decomposition theorem (p. 311) and has no items. The properties b″) "u is d''-exact" and c) "u is $d'd''$-exact" are items of Lemma 8.6 (p. 311).
- **Correction / repair:** Replace (8.5 b″) ⇔ (8.5 c) by (8.6 b″) ⇔ (8.6 c).

CVI-M15. Example 8.10: left invariant forms descend to $\Gamma\backslash G$, not to G/Γ

- **Type:** mathematical error.
- **Precise location:** printed p. 312, Example 8.10 (Iwasawa manifold), last three lines.
- **Printed text:** Then $X = G/\Gamma$ is a compact complex 3-fold, known as the Iwasawa manifold. [...] shows that dx, dy, $dz - xdy$ are left invariant holomorphic 1-forms on G. These forms induce holomorphic 1-forms on the quotient $X = G/\Gamma$.
- **Issue:** A form on G descends to $G/\Gamma = \{M\Gamma\}$ if and only if it is invariant under right translations by Γ, whereas left invariant forms descend to $\Gamma\backslash G$. Indeed $M^{-1}dM$ transforms under $M \mapsto M\gamma$ by $\mathrm{Ad}(\gamma^{-1})$; for $\gamma \in \Gamma$ with entries (a, b, c) one computes $R_\gamma^\star(dz - x\,dy) = (dz - x\,dy) + b\,dx - a\,dy$, so $dz - x\,dy$ does not descend to G/Γ (only dx and dy do). The conclusion is unaffected, since $M \mapsto M^{-1}$ identifies G/Γ with $\Gamma\backslash G$.
- **Correction / repair:** Write $X = \Gamma\backslash G$ (both occurrences), or keep $X = G/\Gamma$ and use the right invariant forms dx, dy, $dz - y\,dx$ given by $dM\,M^{-1}$, for which again $d(dz - y\,dx) = dx \wedge dy \neq 0$.

CVI-M16. § 9.1: '(V-11.6)' should be Prop. V-11.5

- **Type:** cross-reference error.
- **Precise location:** printed p. 314, § 9.1, sentence after the exact sequence (9.1).
- **Printed text:** We have $H^1(X, \mathcal{O}) \simeq H^{0,1}(X, \mathbb{C})$ by (V-11.6).
- **Issue:** (V-11.6) is the Notation "If X is a complex manifold, Ω_X^p denotes the vector bundle $\Lambda^p T^\star X$ or its sheaf of sections" (p. 268). The isomorphism quoted is Proposition V-11.5, $H^{0,q}(X, E) \simeq H^q(X, \mathcal{O}(E))$, applied to the trivial bundle (equivalently the Dolbeault isomorphism V-11.7 with $p = 0$).
- **Correction / repair:** Replace '(V-11.6)' by '(V-11.5)'.

CVI-M17. Proof of Lemma 9.10: the current is $[S^1]\otimes\delta_0$, not $[S^1]\otimes\{\delta_0\}$

- **Type:** notation error.
- **Precise location:** printed p. 315, proof of Lemma 9.10, sentence beginning 'Then the cartesian product $1\times\{\delta_0\}$'.
- **Printed text:** Then the cartesian product $1\times\{\delta_0\}\in H_c^{m-1}(S^1\times\mathbb{R}^{m-1},\mathbb{Z})$ is represented by the current $[S^1]\otimes\{\delta_0\}\in\mathcal{D}'_1(S^1\times\mathbb{R}^{m-1})$.
- **Issue:** The braces denote the cohomology class of the Dirac measure ($\{\delta_0\}\in H_c^{m-1}(\mathbb{R}^{m-1},\mathbb{Z})$), which is not an element of $\mathcal{D}'_0(\mathbb{R}^{m-1})$; the current representing $1\times\{\delta_0\}$ is $[S^1]\otimes\delta_0$, as written two lines below in the definition $I_\gamma := \varphi_\star([S^1]\otimes\delta_0)$.
- **Correction / repair:** Replace $[S^1]\otimes\{\delta_0\}$ by $[S^1]\otimes\delta_0$.

CVI-M18. (9.14): I_ξ is not closed, so $\{I_\xi\}$ is not a De Rham class

- **Type:** notation error.
- **Precise location:** printed p. 316, sentence following formula (9.14).
- **Printed text:** where $\{I_\xi^{n-1,n}\}\in H^{n-1,n}(X,\mathbb{C})$ denotes the $(n-1,n)$-component of the De Rham cohomology class $\{I_\xi\}$.
- **Issue:** ξ is a path from the base point a to x, so $dI_\xi=\delta_x-\delta_a\neq 0$: the current I_ξ is not closed and defines no De Rham cohomology class, and one cannot take the $(n-1,n)$-component of a non existent class. What is true is that the component $I_\xi^{n-1,n}$ is automatically d''-closed (its d'' would be of bidegree $(n-1,n+1)=0$), hence defines a *Dolbeault* class in $H^{n-1,n}(X,\mathbb{C})$, well defined modulo $\operatorname{Im} H^{2n-1}(X,\mathbb{Z})$ because $I_{\xi'}-I_\xi=I_\gamma$ is closed for a loop γ. This is how it is used in the proof of Lemma 10.15 (p. 320), where $\{I^{0,1}_{[a,x]}\}$ is identified with a Čech class in $H^1(X,\mathcal{O})$.
- **Correction / repair:** Replace 'the $(n-1,n)$-component of the De Rham cohomology class $\{I_\xi\}$' by 'the Dolbeault cohomology class of the $(n-1,n)$-component $I_\xi^{n-1,n}$ of the current I_ξ, which is d''-closed for bidegree reasons'; and in (9.14) read 'mod $\operatorname{Im} H^{2n-1}(X,\mathbb{Z})$' as in (9.9).

CVI-M19. § 10.1: 'According to V-13.2' should be V-13.5

- **Type:** cross-reference error.
- **Precise location:** printed p. 317, § 10.1, paragraph beginning 'Any divisor on X can be written $\Delta=\sum m_j a_j$'.
- **Printed text:** According to V-13.2, we denote by $E(\Delta)$ the sheaf of germs of meromorphic sections f of E such that $\operatorname{div} f+\Delta\geqslant 0$.
- **Issue:** (V-13.2) is the Lelong-Poincaré equation $\mathrm{i}d'd''\log|s|^2=2\pi\sum m_j[Z_j]-\mathrm{i}\,\Theta(E)$ (p. 271); it does not introduce $\mathcal{O}(\Delta)$ or $E(\Delta)$. The sheaf $\mathcal{O}(\Delta)$ of germs of meromorphic functions f with $\operatorname{div}(f)+\Delta\geqslant 0$ is defined in Example V-13.5 (p. 271).
- **Correction / repair:** Replace 'According to V-13.2' by 'According to V-13.5'.

CVI-M20. Proof of Theorem 10.7 b): missing factor 2π in the conformal change $h'=he^{-\varphi}$

- **Type:** mathematical error.
- **Precise location:** printed p. 318, proof of Theorem 10.7 b), last two lines.
- **Printed text:** $c_1(E)\,\omega-\frac{\mathrm{i}}{2\pi}\Theta_h(E)=\mathrm{i}d'd''\varphi$ for some real function $\varphi\in\mathcal{C}^\infty(X,\mathbb{R})$. If we replace the initial metric of E by $h'=h\,e^{-\varphi}$, we get a metric of constant curvature $c_1(E)\,\omega$.

- **Issue:** With the convention of V-13.2 (p. 271), $|s|_h^2 = |\sigma|^2 e^{-\phi}$ and $\Theta_h(E) = d'd''\phi$, so $h' = h\,e^{-\psi}$ has $\Theta_{h'}(E) = \Theta_h(E) + d'd''\psi$. Taking $\psi = \varphi$ gives $\frac{\mathrm{i}}{2\pi}\Theta_{h'}(E) = \frac{\mathrm{i}}{2\pi}\Theta_h(E) + \frac{\mathrm{i}}{2\pi}d'd''\varphi = \frac{\mathrm{i}}{2\pi}\Theta_h(E) + \frac{1}{2\pi}\Big(c_1(E)\omega - \frac{\mathrm{i}}{2\pi}\Theta_h(E)\Big)$, which equals $c_1(E)\omega$ only if the correction term vanishes. One needs $\frac{\mathrm{i}}{2\pi}d'd''\psi = \mathrm{i}\,d'd''\varphi$, i.e. $\psi = 2\pi\varphi$.

- **Correction / repair:** Replace $h' = h\,e^{-\varphi}$ by $h' = h\,e^{-2\pi\varphi}$; equivalently, normalize the preceding equation as $c_1(E)\,\omega - \frac{\mathrm{i}}{2\pi}\Theta_h(E) = \frac{\mathrm{i}}{2\pi}d'd''\varphi$ and keep $h' = h\,e^{-\varphi}$.

CVI-M21. Proof of Lemma 10.15: 'Lemma I-2.10' should be Cor. I-3.4

- **Type:** cross-reference error.

- **Precise location:** printed p. 320, proof of Lemma 10.15, second sentence.

- **Printed text:** Lemma I-2.10 implies $d''(dz/2\pi\mathrm{i}z) = \delta_0\, d\overline{z} \wedge dz/2\mathrm{i} = \delta_0$ according to the usual identification of distributions and currents of degree 0.

- **Issue:** (I-2.10) is the displayed formula $T_I(f) = \langle T_I, f\,dx_1 \wedge \cdots \wedge dx_m\rangle$ defining the coefficients of a current (p. 16); it is neither a Lemma nor related to $\partial/\partial\overline{z}$. The fact used is Corollary I-3.4 (p. 21): "$E(z) = 1/\pi z$ is a fundamental solution of the operator $\partial/\partial\overline{z}$", i.e. $\partial E/\partial\overline{z} = \delta_0$. The displayed identity itself is correct, since $\partial_{\overline{z}}\big(1/(2\pi\mathrm{i}z)\big) = \delta_0/2\mathrm{i}$ and $d\overline{z} \wedge dz/2\mathrm{i} = dx \wedge dy$.

- **Correction / repair:** Replace 'Lemma I-2.10' by 'Cor. I-3.4' (or by 'Lemma I-3.24').

CVI-M22. Th.-Def. 11.3: degeneration at E_1 gives no canonical decomposition

- **Type:** mathematical error.

- **Precise location:** printed p. 323, Theorem and Definition 11.3 (statement continued from p. 322), second sentence.

- **Printed text:** is equivalent to the degeneration of the Hodge-Frölicher spectral sequence at E_1. In this case, the isomorphism is canonically defined and we say that X admits a Hodge decomposition.

- **Issue:** Degeneration at E_1 yields the canonical filtration $F^pH^k_{DR}(X,\mathbb{C})$ together with canonical isomorphisms $F^pH^k/F^{p+1}H^k = E_\infty^{p,q} = E_1^{p,q} \simeq H^{p,q}(X,\mathbb{C})$, but splitting that filtration requires a choice and is not canonical in general. For a primary Kodaira surface the spectral sequence degenerates at E_1 (as it does for every compact complex surface), while $b_1 = 3$, $h^{1,0} = 1$, $h^{0,1} = 2$; here $F^1H^1 + \overline{F^1H^1}$ is only 2-dimensional, so no complement of F^1H^1 in H^1 is singled out. A canonical direct sum decomposition is obtained under the stronger hypothesis of Definition 12.5 (strong Hodge decomposition), via the maps $\bigoplus_{p+q=k} H^{p,q}_{\mathrm{BC}}(X,\mathbb{C}) \to H^k(X,\mathbb{C})$.

- **Correction / repair:** Replace 'the isomorphism is canonically defined' by 'there are canonical isomorphisms $F^pH^k(X,\mathbb{C})/F^{p+1}H^k(X,\mathbb{C}) \simeq H^{p,q}(X,\mathbb{C})$, $p+q=k$, for the filtration induced by the spectral sequence' (a canonical decomposition requires the strong Hodge decomposition of Def. 12.5).

CVI-M23. § 12: unresolved reference 'II-??.??' for the definition of a modification

- **Type:** cross-reference error.

- **Precise location:** printed p. 324, § 12, introductory paragraph, first sentence.

- **Printed text:** there exists such a decomposition on a modification $\widetilde{X}$ of X (see II-??.?? for the Definition).

- **Issue:** Unresolved cross-reference. A modification is defined in Definition II-10.1 (p. 126, § II-10 'Bimeromorphic maps, Modifications and Blow-ups'); the definition is also recalled in § 12.3 (p. 327).

- **Correction / repair:** Replace 'II-??.??' by 'Def. II-10.1'.

CVI-M24. Lemma 12.1: the case $p_0 = 0$ or $q_0 = 0$ is not covered

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 324, § 12.1, sentence 'If $p_0 = 0$ or $q_0 = 0$ we set instead . . . ' and statement of Lemma 12.1.
- **Printed text:** If $p_0 = 0$ or $q_0 = 0$ we set instead $\mathcal{S}'^0 = \mathbb{C}$ or $\mathcal{S}''^0 = \mathbb{C}$, and take the other components to be zero. [. . .] (12.1) Lemma. The inclusions $\mathcal{S}^\bullet \subset \mathcal{L}^\bullet \subset \mathcal{M}^\bullet$ induce isomorphisms $\mathcal{H}^k(\mathcal{S}^\bullet) \simeq \mathcal{H}^k(\mathcal{L}^\bullet) \simeq \mathcal{H}^k(\mathcal{M}^\bullet)$.
- **Issue:** For $p_0 = 0$ the condition $p < p_0$ is void, hence $\mathcal{L}^k = 0$ for $k \leqslant k_0 - 2 = q_0 - 2$, while $\mathcal{L}^{q_0-1} = \mathcal{E}^{0,q_0}$. Consequently $\mathcal{S}^\bullet \not\subset \mathcal{L}^\bullet$: neither $\mathcal{S}'^0 = \mathbb{C}$ nor $\mathcal{S}''^k = \overline{\Omega^k_X}$ ($k \leqslant q_0 - 2$) is contained in $\mathcal{L}^k$, and for $q_0 \geqslant 2$ one has $\mathcal{H}^0(\mathcal{S}^\bullet) = \mathbb{C} \neq 0 = \mathcal{H}^0(\mathcal{L}^\bullet)$, so Lemma 12.1 and (12.3) fail in degree 0 (symmetrically for $q_0 = 0$). Theorem 12.4 is unaffected: $H^{p,0}_{\mathrm{BC}}(X, \mathbb{C}) = \{u \in H^0(X, \Omega^p_X)\,;\, du = 0\}$ and $H^{0,q}_{\mathrm{BC}}(X, \mathbb{C}) = \overline{H^{q,0}_{\mathrm{BC}}(X, \mathbb{C})}$ are obviously finite dimensional.
- **Correction / repair:** State the construction of § 12.1 and Lemma 12.1 for $p_0 \geqslant 1$ and $q_0 \geqslant 1$ only, and treat the boundary cases directly by the description of $H^{p,0}_{\mathrm{BC}}$ and $H^{0,q}_{\mathrm{BC}}$ just given.

CVI-M25. Proof of Lemma 12.1: the E_1 and E_2 terms are off by one

- **Type:** mathematical error.
- **Precise location:** printed p. 325, proof of Lemma 12.1: the E_1-term of $\mathcal{S}^\bullet$ and the list of the three non zero E_2 terms.
- **Printed text:** the second is reduced to $E_1^{0,q_0-1} = \overline{d\Omega_X^{q_0-2}}$ (resp. $= \mathbb{C}$ for $q_0 = 1$). [. . .] $E_2^{0,0} = \mathbb{C}$, $E_2^{p_0-1,0} = d\Omega_X^{p_0-2}$ for $p_0 \geqslant 2$, $E_2^{0,q_0-1} = \overline{d\Omega_X^{q_0-2}}$ for $q_0 \geqslant 2$.
- **Issue:** The first line of $E_1^\bullet$ is $0 \to \Omega^0_X \xrightarrow{d} \Omega^1_X \to \cdots \to \Omega_X^{p_0-1} \to 0$, so its cohomology in the last degree is $E_2^{p_0-1,0} = \Omega_X^{p_0-1}/d\Omega_X^{p_0-2} \simeq d\Omega_X^{p_0-1}$ (holomorphic Poincaré lemma), not $d\Omega_X^{p_0-2}$: these sheaves really differ, e.g. for $n = 1$, $p_0 = 2$ one has $\Omega^1_X/d\mathcal{O}_X = 0$ whereas $d\mathcal{O}_X = \Omega^1_X \neq 0$. Likewise the $p = 0$ column of $\mathcal{S}^\bullet$ is $\overline{\Omega^0_X} \to \cdots \to \overline{\Omega_X^{q_0-1}}$, whence $E_1^{0,q_0-1} = \overline{\Omega_X^{q_0-1}/d\Omega_X^{q_0-2}} \simeq \overline{d\Omega_X^{q_0-1}}$ and $E_2^{0,q_0-1} = \overline{d\Omega_X^{q_0-1}}$. The latter is exactly what Lemma 12.2, invoked two lines above, asserts ('is a resolution of $\overline{d\Omega_X^{q_0-1}}$ for $q_0 \geqslant 1$'), so the printed list contradicts the lemma it relies on.
- **Correction / repair:** Replace $E_1^{0,q_0-1} = \overline{d\Omega_X^{q_0-2}}$ by $E_1^{0,q_0-1} = \overline{\Omega_X^{q_0-1}/d\Omega_X^{q_0-2}} \simeq \overline{d\Omega_X^{q_0-1}}$; in the list of E_2 terms replace $E_2^{p_0-1,0} = d\Omega_X^{p_0-2}$ by $E_2^{p_0-1,0} = \Omega_X^{p_0-1}/d\Omega_X^{p_0-2} \simeq d\Omega_X^{p_0-1}$ and $E_2^{0,q_0-1} = \overline{d\Omega_X^{q_0-2}}$ by $E_2^{0,q_0-1} = \overline{d\Omega_X^{q_0-1}}$.

CVI-M26. Proof of Lemma 12.2: a missing row in E_1 and a missing degree shift

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 325, proof of Lemma 12.2, first display and last sentence.
- **Printed text:** For the first fitration of $K^\bullet$, we find $E_1^{p,q_0-1} = \mathcal{Z}^{p,q_0}$, $E_1^{p,q} = 0$ for $q \neq q_0 - 1$ [. . .] thus the cohomology of $\mathcal{Z}^{\bullet,q_0}$ coincides with that of $(\overline{\Omega^p_X}, d)_{0 \leqslant p < q_0}$.
- **Issue:** For $q_0 \geqslant 2$ the columns $K^{p,\bullet} = [\mathcal{E}^{p,0} \to \cdots \to \mathcal{E}^{p,q_0-1}]$ have d''-cohomology $\Omega^p_X \neq 0$ in degree 0, so there is a second non zero row $E_1^{p,0} = \Omega^p_X$ (Demailly lists it in the analogous computation of Lemma 12.1 on the same page); the correct statement is $E_1^{p,q} = 0$ for $q \neq 0, q_0 - 1$. Moreover the last sentence omits the degree shift: since $E_2^{p,0} = 0$ for $p \geqslant 1$ and $E_2^{0,0} = \mathbb{C}$ contributes only in total degree 0 (no d_r can join the two rows, because $d_{q_0} : E_{q_0}^{p,q_0-1} \to E_{q_0}^{p+q_0,0}$ lands in $E_2^{p+q_0,0} = 0$), one gets $\mathcal{H}^p(\mathcal{Z}^{\bullet,q_0}, d') = E_2^{p,q_0-1} = \mathcal{H}^{p+q_0-1}(K^\bullet)$, which is $\overline{\Omega_X^{q_0-1}/d\Omega_X^{q_0-2}} \simeq \overline{d\Omega_X^{q_0-1}}$ for $p = 0$ and 0 for $p \geqslant 1$, as claimed by the Lemma. Read literally, the printed sentence would give $\mathcal{H}^0(\mathcal{Z}^{\bullet,q_0}) = \mathbb{C}$ and $\mathcal{H}^{q_0-1}(\mathcal{Z}^{\bullet,q_0}) \neq 0$, contradicting the assertion

that $\mathcal{Z}^{\bullet,q_0}$ is a resolution. For $q_0 = 1$ the columns reduce to $\mathcal{E}^{p,0}$, so $E_1^{p,0} = \mathcal{E}^{p,0}$ and the argument has to be replaced by the exact sequence of complexes $0 \to (\Omega_X^\bullet, d) \to (\mathcal{E}^{\bullet,0}, d') \xrightarrow{d''} (\mathcal{Z}^{\bullet,1}, d') \to 0$.

- **Correction / repair:** Add the row $E_1^{p,0} = \Omega_X^p$ (case $q_0 \geqslant 2$) and replace the last sentence by: 'thus $\mathcal{H}^p(\mathcal{Z}^{\bullet,q_0}) \simeq \mathcal{H}^{p+q_0-1}\big((\overline{\Omega_X^\bullet}, d)_{0\leqslant\bullet<q_0}\big)$, that is $\overline{d\Omega_X^{q_0-1}}$ for $p = 0$ and 0 for $p \geqslant 1$'; treat $q_0 = 1$ by the exact sequence $0 \to \Omega_X^\bullet \to (\mathcal{E}^{\bullet,0}, d') \to (\mathcal{Z}^{\bullet,1}, d') \to 0$.

CVI-M27. Proof of Lemma 12.1: $E_2^{0,0} = \mathbb{C}$ fails when $p_0 = 1$ or $q_0 = 1$

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 325, proof of Lemma 12.1: sentence 'if these sequences overlap ($q_0 = 1$)...' and the list of E_2 terms.
- **Printed text:** if these sequences overlap ($q_0 = 1$), only the second one has to be considered. [...] $E_1^{0,q_0-1} = \overline{d\Omega_X^{q_0-2}}$ (resp. $= \mathbb{C}$ for $q_0 = 1$). [...] $E_2^{0,0} = \mathbb{C}$.
- **Issue:** If $q_0 = 1$, the columns $E_0^{p,\bullet}$ with $p < p_0$ reduce to the single term $\mathcal{E}^{p,0}$, so $E_1^{p,0} = \mathcal{E}^{p,0}$ (neither Ω_X^p nor $\mathcal{Z}^{p,1}$), and $E_2^{0,0} = \ker(d' : \mathcal{E}^{0,0} \to \mathcal{E}^{1,0}) = \overline{\mathcal{O}_X}$ for $p_0 \geqslant 2$, resp. $\ker(d'd'') = \mathcal{O}_X + \overline{\mathcal{O}_X}$ (pluriharmonic germs) for $p_0 = q_0 = 1$. If $p_0 = 1$ and $q_0 \geqslant 2$, then $E_1^{p,0} = 0$ for $p \geqslant p_0$, so $E_2^{0,0} = E_1^{0,0} = \Omega_X^0 = \mathcal{O}_X$; this is confirmed directly by $\mathcal{H}^0(\mathcal{L}^\bullet) = \ker(d'' : \mathcal{E}^{0,0} \to \mathcal{E}^{0,1}) = \mathcal{O}_X$. The conclusion of the lemma is unaffected, since $\mathcal{S}^\bullet$ has the same $\mathcal{H}^0$ in each of these cases.
- **Correction / repair:** State the list of E_2 terms under the assumption $p_0 \geqslant 2$, $q_0 \geqslant 2$, and add the boundary values: $E_2^{0,0} = \mathcal{O}_X$ if $p_0 = 1 < q_0$, $E_2^{0,0} = \overline{\mathcal{O}_X}$ if $q_0 = 1 < p_0$, $E_2^{0,0} = \mathcal{O}_X + \overline{\mathcal{O}_X}$ if $p_0 = q_0 = 1$ (for $\mathcal{S}^\bullet$ as well as for $\mathcal{L}^\bullet$).

CVI-M28. Proof of Theorem 12.4: missing primes on $\mathcal{S}'^\bullet$ (four occurrences)

- **Type:** notation error.
- **Precise location:** printed p. 326, proof of Theorem 12.4: the displayed formula for $p_0 = 0, 1$, the exact sequence, and the sentence following it.
- **Printed text:** $\mathbb{H}^k(X, \mathcal{S}^\bullet) = H^k(X, \mathcal{S}'^0) = \begin{cases} H^k(X,\mathbb{C}) & \text{for } p_0 = 0 \\ H^k(X,\mathcal{O}) & \text{for } p_0 = 1 \end{cases}$ [...] $0 \longrightarrow \Omega_X^{p_0} \longrightarrow \mathcal{S}_{p_0+1}^\bullet \longrightarrow \mathcal{S}_{p_0}^\bullet \longrightarrow 0$ where $\Omega_X^{p_0}$ denotes the subcomplex of $\mathcal{S}_{p_0+1}^\bullet$.
- **Issue:** The induction is on the truncated holomorphic De Rham complexes $\mathcal{S}'^\bullet = \mathcal{S}'^\bullet_{p_0}$, as stated in the preceding sentence, but the prime is missing in four places. As printed the assertions are false: $\mathcal{S}^\bullet = \mathcal{S}'^\bullet + \mathcal{S}''^\bullet$ depends on q_0 as well, $\mathbb{H}^k(X, \mathcal{S}^\bullet) \neq H^k(X, \mathcal{O})$ for $p_0 = 1$, and the complexes $\mathcal{S}_{p_0}^\bullet$, $\mathcal{S}_{p_0+1}^\bullet$ are not defined.
- **Correction / repair:** Read $\mathbb{H}^k(X, \mathcal{S}'^\bullet)$, and $\mathcal{S}'^\bullet_{p_0+1}$, $\mathcal{S}'^\bullet_{p_0}$, $\mathcal{S}'^\bullet_{p_0+1}$ in the exact sequence and in the sentence following it.

CVI-M29. § 12.2: 'Theorem I-1.14' and 'I-1.14 c)' should be I-2.14

- **Type:** cross-reference error.
- **Precise location:** printed p. 327, § 12.2, sentences introducing (12.7) and (12.8).
- **Printed text:** Theorem I-1.14 shows that one can define direct image morphisms $F_\star : \mathcal{D}'_k(X) \to \mathcal{D}'_k(Y)$ [...] In addition, I-1.14 c) implies the adjunction formula $F_\star(\alpha \smile F^\star\beta) = (F_\star\alpha) \smile \beta$.
- **Issue:** (I-1.14) is the displayed formula $F^\star(G^\star w) = (G \circ F)^\star w$ for pull-backs of differential forms (p. 11); it is not a Theorem and has no items. Direct images of currents under maps that are proper on the support, with $d(F_\star T) = F_\star(dT)$ (item b) and the projection formula $F_\star(T \wedge F^\star g) = (F_\star T) \wedge g$ (item c), are Theorem I-2.14 (p. 17).

- **Correction / repair:** Replace ‘Theorem I-1.14’ by ‘Theorem I-2.14’ and ‘I-1.14 c)’ by ‘I-2.14 c)’.

CVI-M30. Proof of Theorem 12.9: Y and X should be X and $\widetilde{X}$

- **Type:** notation error.
- **Precise location:** printed p. 327, proof of Theorem 12.9, first two sentences and the displayed integrals.
- **Printed text:** We first observe that $\mu_\star\mu^\star f = f$ for every smooth form f on Y. In fact, this property is equivalent to the equality $\int_Y (\mu_\star\mu^\star f)\wedge g = \int_X \mu^\star(f\wedge g) = \int_Y f\wedge g$ for every smooth form g on Y.
- **Issue:** Theorem 12.9 is stated for a modification $\mu : \widetilde{X} \to X$; no manifold Y occurs in the statement, and here the letter X is used for the source of μ. The proof has been transposed from the notation $F : X \to Y$ of § 12.2 without renaming, so as printed the forms f, g live on an undefined manifold and the middle integral is taken over the wrong space.
- **Correction / repair:** Read: ‘$\mu_\star\mu^\star f = f$ for every smooth form f on X … $\int_X (\mu_\star\mu^\star f)\wedge g = \int_{\widetilde{X}} \mu^\star(f\wedge g) = \int_X f\wedge g$ for every smooth form g on X’.

CVI-M31. § 12.3: unresolved reference ‘§?.?’ for Moišezon manifolds

- **Type:** cross-reference error.
- **Precise location:** printed p. 328, last paragraph of § 12.3, after Definition 12.10.
- **Printed text:** We will see later that there exist non-Kähler manifolds in $(\mathcal{C})$, for example all non projective Moišezon manifolds (cf. §?.?).
- **Issue:** Unresolved cross-reference. Moišezon manifolds are not treated anywhere else in this version of the book: the name occurs only here and in the bibliography entry [Moishezon 1967], so the announced later discussion cannot be pointed to.
- **Correction / repair:** Delete ‘(cf. §?.?)’ and refer to the literature instead, e.g. ‘(cf. [Moishezon 1967])’, or supply the intended section number.

Typographical and editorial corrections

- **CVI-T01.** printed p. 288, proof of Definition (1.5), first and second lines of the integration-by-parts display. *Printed:* $\langle\!\langle Pu, v\rangle\!\rangle = \int_\Omega \sum_{|\alpha|\leqslant\delta,\lambda,\mu} a_{\alpha\lambda\mu} D^\alpha u_\mu(x)\overline{v}_\lambda(x)\,\gamma(x)\,dx_1,\ldots,dx_m$. *Issue:* In the first two lines of the display the volume element is a comma-separated list $dx_1,\ldots,dx_m$ instead of the product $dx_1\cdots dx_m$; compare the definition of dV higher on the same page. *Correction:* In both lines replace $dx_1,\ldots,dx_m$ by $dx_1\cdots dx_m$.
- **CVI-T02.** printed p. 290, proof of Corollary (2.4) ii), the sentence defining G. *Printed:* Define $G = \big\{u \in W^{k+d}(M,F)\ ;\ u\perp v_j,\ 1\leqslant j\leqslant n\big\}$ and choose $\varepsilon = 1/2C_k$. *Correction:* Replace '$1\leqslant j\leqslant n$' by '$1\leqslant j\leqslant N$'.
- **CVI-T03.** printed p. 291, displays (3.3′) and (3.4′). *Printed:* $(3.3')\star\ :\ \Lambda^p T^\star_M\otimes E\to\Lambda^{m-p}T^\star_M\otimes E,\qquad \{s,\star t\} = \langle s,t\rangle\,dV$. *Issue:* Unlike all the other numbered displays of the chapter, (3.3′) and (3.4′) are not centred and their labels are typeset against the formula, so that the equation number appears to be part of the formula ('(3.3′)$\star$'). *Correction:* Typeset the two displays like the other numbered formulas, with the labels (3.3′), (3.4′) in the margin.
- **CVI-T04.** printed p. 292, heading of (3.7). *Printed:* (3.7) Contraction by a Vector Field.. Given a tangent vector $\theta\in T_M$ and a form $u\in\Lambda^p T^\star_M$, … *Issue:* 'Vector Field..' carries two periods. *Correction:* Delete the duplicated period: 'Contraction by a Vector Field.'.
- **CVI-T05.** printed p. 292, first line of the proof of Theorem (3.9). *Printed:* Proof. If $u\in\mathcal{C}^\infty(M,\Lambda^p T^\star_M)$, $v\in\mathcal{C}^\infty(M,\Lambda^{p+1}T^\star_M\otimes)$ are compactly supported we get. *Issue:* A tensor sign is left without a second factor, a leftover of '$\otimes E$' (cf. the statement of (3.9), where $\otimes E$ has to be deleted). *Correction:* Read $v\in\mathcal{C}^\infty(M,\Lambda^{p+1}T^\star_M)$.

- **CVI-T06.** printed p. 296, Definition (4.1) b). *Printed:* b) The metric ω is said to be kähler if $d\omega = 0$. *Issue:* 'kähler' is printed in lower case, whereas the proper name is capitalized everywhere else in the book, including item c) of the same definition. *Correction:* Replace 'kähler' by 'Kähler'.

- **CVI-T07.** printed p. 296, line following the display $\omega^n/n! = \det(h_{jk})\, dx_1 \wedge dy_1 \wedge \cdots \wedge dx_n \wedge dy_n$. *Printed:* where $z_n = x_n + \mathrm{i}y_n$. Therefore the (n, n)-form $dV = \frac{1}{n!}\omega^n$. *Issue:* The preceding display involves $dx_1 \wedge dy_1 \wedge \cdots \wedge dx_n \wedge dy_n$, so all the real coordinates x_j, y_j, $1 \leqslant j \leqslant n$, must be introduced, not only the last one. *Correction:* Replace 'where $z_n = x_n + \mathrm{i}y_n$' by 'where $z_j = x_j + \mathrm{i}y_j$, $1 \leqslant j \leqslant n$'.

- **CVI-T08.** printed p. 297, Example (4.7), sentence beginning 'More generally'. *Printed:* More generally, one can obtaintake Γ to be an infinite cyclic group generated by a holomorphic contraction of $\mathbb{C}^2$, of the form. *Issue:* 'obtaintake' is the merging of two variants of the sentence. *Correction:* Read 'More generally, one can take Γ to be an infinite cyclic group ...'.

- **CVI-T09.** printed p. 299, running head. *Printed:* §5. Basic Results of Kähler Geometry 299. *Issue:* Page 299 contains only material of §4 (end of the proof of Theorem (4.8), formulas (4.13), (4.14) and Remark (4.15)); §5 'Basic Results of Kähler Geometry' starts on p. 300. *Correction:* The running head of p. 299 should read '§4. Hermitian and Kähler Manifolds'.

- **CVI-T10.** printed p. 300, §5.1, first paragraph, end of the third sentence. *Printed:* $|dz_j| = |d\overline{z}_j| = 1$, and that $(\partial/\partial z_1, \ldots, \partial/\partial z_n)$ is an orthonormal basis of $(T_x^\star X, \omega)$. *Correction:* Replace '$(T_x^\star X, \omega)$' by '$(T_x X, \omega)$'.

- **CVI-T11.** printed p. 300, §5.1, second sentence of the first paragraph. *Printed:* The associated hermitian form is the $h(x) = 2\sum dz_j \otimes d\overline{z}_j$ and its real part is the euclidean metric $2\sum(dx_j)^2 + (dy_j)^2$. *Issue:* 'is the $h(x) = \ldots$' contains a stray article. Moreover the factor 2 and the summation must bear on both squares, $\mathrm{Re}\, h = 2\sum_j \big((dx_j)^2 + (dy_j)^2\big)$; as printed the expression is not symmetric in x_j and y_j, although $|dx_j| = |dy_j| = 1/\sqrt{2}$ is deduced from it on the next line. *Correction:* Read 'The associated hermitian form is $h(x) = 2\sum dz_j \otimes d\overline{z}_j$ and its real part is the euclidean metric $2\sum_j \big((dx_j)^2 + (dy_j)^2\big)$'.

- **CVI-T12.** printed p. 303, proof of the existence of the decomposition (5.15), sentence 'It remains to prove ...'. *Printed:* It remains to prove the validity of the decomposition 5.16) for the initial step $s = (k-n)_+$, i.e. that $\Lambda^s u = 0$ implies $u = 0$. *Issue:* The opening parenthesis of the reference to formula (5.16) is missing. *Correction:* Read 'the validity of the decomposition (5.16)'.

- **CVI-T13.** printed p. 308, line introducing the proof of formula (6.8 a). *Printed:* Proof Proof of formula 6.8 a). The equality $L = L_0 + \gamma$ and Lemma 6.10 yield. *Issue:* The word 'Proof' is doubled: the italic proof marker is immediately followed by 'Proof of formula 6.8 a)'. *Correction:* Read 'Proof of formula (6.8 a).'.

- **CVI-T14.** printed p. 310, Theorem 7.3, displayed bilinear pairing. *Printed:* $H^{p,q}(X, E) \times H^{n-p,n-q}(X, E^\star) \longrightarrow \mathbb{C}, \quad (s, t) \longmapsto \int_M s \wedge t$. *Issue:* In § 7 the manifold is the compact hermitian manifold (X, ω); the letter M denotes the oriented Riemannian manifold (M, g) of § 3 (p. 291) and is nowhere defined in § 7. The proof itself writes $\|s\|^2 = \int_X s \wedge \# s$. *Correction:* Replace $\int_M s \wedge t$ by $\int_X s \wedge t$.

- **CVI-T15.** printed p. 315, proof of Lemma 9.10, third sentence. *Printed:* Every homotopy class $[\gamma] \in \pi_1(M, a)$ can be represented by as a composition of closed loops diffeomorphic to S^1. *Issue:* Superfluous word 'by'. *Correction:* Read 'can be represented as a composition of closed loops ...'.

- **CVI-T16.** printed p. 320, proof of Lemma 10.15, sentence beginning 'Therefore $\{I^{0,1}_{[a,x]}\} \in H^{0,1}(X, \mathbb{C})$'. *Printed:* Therefore $\{I^{0,1}_{[a,x]}\} \in H^{0,1}(X, \mathbb{C})$ is equal to the Čech cohomology class $['\}$ in $H^1(X, \mathcal{O})$ represented by the cocycle. *Issue:* A broken symbol (an opening square bracket carrying a prime, closed by a brace) is printed in place of the name of the Čech class; the cocycle displayed immediately below is c'_{12}, and the last line of the proof reads $c = \exp(2\pi \mathrm{i} c')$. *Correction:* Replace the garbled symbol by $\{c'\}$.

- **CVI-T17.** printed p. 321, § 10.3, paragraph beginning 'It remains to compute $h^0(K(-m[a]))$'. *Printed:* Any germ $u \in \mathcal{O}(K)_a$ can be written $u = U(z)\, dz$ with $U(z) = \sum_{m\in\mathbb{N}} \frac{1}{m!} U^{(m)}(a) z^m\, dz$. *Issue:* U is the scalar coefficient of $u = U(z)\, dz$, so its Taylor expansion carries no dz; as printed, $u = U(z)\, dz$ would be of degree 2. *Correction:* Delete the final 'dz': $U(z) = \sum_{m\in\mathbb{N}} \frac{1}{m!} U^{(m)}(a) z^m$.

- **CVI-T18.** printed p. 321, § 10.3, after 'canonically isomorphic to K_a^{m+1} via the map $u \mapsto U^{(m)}(a)(dz)^{m+1}$'. *Printed:* which is independant of the choice of z. *Issue:* French spelling used for the English word 'independent'. *Correction:* Read 'which is independent of the choice of z'.

- **CVI-T19.** printed p. 323, first sentence of the paragraph following Theorem and Definition 11.3. *Printed:* In general, interesting informations can be deduced from the spectral sequence. *Issue:* Gallicism: 'information' is uncountable in English. *Correction:* Read 'interesting information can be deduced from the spectral sequence'.

- **CVI-T20.** printed p. 323, running head. *Printed:* § 12. Effect of a Modification on Hodge Decomposition 323. *Correction:* Replace the running head of p. 323 by '§ 11. Hodge-Frölicher Spectral Sequence'.

- **CVI-T21.** printed p. 323, statement of Lemma 11.6. *Printed:* (11.6) Lemma. Let $(C^\bullet, d)$ a bounded complex of finite dimensional vector spaces over some field. *Issue:* Missing verb 'be'. *Correction:* Read 'Let $(C^\bullet, d)$ be a bounded complex of finite dimensional vector spaces over some field'.

- **CVI-T22.** printed p. 324, § 12, first paragraph, last sentence. *Printed:* This leads us to extend Hodge theory to a class of manifolds which are non necessarily Kähler, the so called Fujiki class $(\mathcal{C})$. *Issue:* Gallicism; the correct form 'not necessarily Kähler' is used on p. 310. *Correction:* Read 'which are not necessarily Kähler'.

- **CVI-T23.** printed p. 325, proof of Lemma 12.2, sentences 'For the first fitration of $K^\bullet$' and 'The second fitration gives'. *Printed:* For the first fitration of $K^\bullet$, we find [. . .] The second fitration gives $\widetilde{E}_1^{p,q} = 0$ for $q \geqslant 1$. *Issue:* Misspelling of 'filtration', twice. *Correction:* Read 'filtration' in both places.

- **CVI-T24.** printed p. 326, proof of Theorem 12.4, line following the displayed formula. *Printed:* and this groups are finite dimensional. *Issue:* Number disagreement. *Correction:* Read 'and these groups are finite dimensional'.

Chapter VII. Positive Vector Bundles and Vanishing Theorems

Range checked: printed pp. 329–362.

Mathematical corrections, cross-references and proof clarifications

CVII-M01. Theorem 1.1: unresolved reference 'Prop. V-12.??'

- **Type:** cross-reference error.
- **Precise location:** printed p. 329, proof of Theorem 1.1, first sentence.
- **Printed text:** Prop. V-12.?? shows the existence of a normal coordinate frame (e_λ) at x_0.
- **Issue:** The cross-reference was never resolved. The statement asserting the existence of a normal coordinate frame is Proposition (V-12.10), p. 270: 'For every point $x_0 \in X$ and every coordinate system $(z_j)_{1 \leqslant j \leqslant n}$ at x_0, there exists a holomorphic frame (e_λ) ... Such a frame is called a normal coordinate frame at x_0.'.
- **Correction / repair:** Replace 'Prop. V-12.??' by 'Prop. V-12.10'.

CVII-M02. Chapter VII: references to non-existent chapters 10-11 and to 'Volume II'

- **Type:** cross-reference error.
- **Precise location:** printed p. 329, chapter introduction, penultimate sentence; p. 334, paragraph following Theorem 3.5; p. 347, remark following Corollary 9.4 and first paragraph of §10.
- **Printed text:** much finer results will be obtained in chapters 8–11. ... It will be proved in Volume II, by means of holomorphic Morse inequalities, that the Kähler assumption is in fact unnecessary. ... which we will prove in full generality in volume II.

- **Issue:** The book consists of Chapters I–IX only (pp. 7–448) and there is no Volume II, so 'chapters 8–11' and the three occurrences of 'Volume II' (pp. 334, 347) point to material that is not part of the volume; moreover Chapters VIII (L^2 estimates) and IX (finiteness theorems) contain none of the announced refinements (the cohomology of $\mathcal{O}(k)$ over $\mathbb{P}^n$, the removal of the Kähler hypothesis in Theorem 3.5, Griffiths' and Le Potier's vanishing theorems for ample vector bundles).

- **Correction / repair:** Replace these forward references by references to the literature – [Demailly 1985d] and [Siu 1984] for the holomorphic Morse inequalities and the removal of the Kähler assumption, [Griffiths 1969] and [Le Potier 1975] for the vanishing theorems for ample vector bundles – or state explicitly that these results are not contained in the present volume.

CVII-M03. Theorem 1.1: 'Th. VI-10.1' should be 'Th. VI-6.8'

- **Type:** cross-reference error.

- **Precise location:** printed p. 330, last sentence of the proof of Theorem 1.1.

- **Printed text:** The proof of Th. 1.1 is then reduced to the case of scalar valued operators, which is granted by Th. VI-10.1.

- **Issue:** (VI-10.1) is the formula $H^1(X, \mathcal{O}) \simeq \mathbb{C}^g$, $H^0(X, \Omega^1_X) \simeq \mathbb{C}^g$ for a compact curve, in §VI-10 (*Complex Curves*), p. 317. The scalar commutation relations $[d''^\star, L] = \mathrm{i}(d' + \tau)$, $[d'^\star, L] = -\mathrm{i}(d'' + \overline{\tau})$, $[\Lambda, d''] = -\mathrm{i}(d'^\star + \tau^\star)$, $[\Lambda, d'] = \mathrm{i}(d''^\star + \overline{\tau}^\star)$, of which (VII-1.1) is the bundle-valued analogue, are Theorem (VI-6.8), pp. 306–307.

- **Correction / repair:** Replace 'Th. VI-10.1' by 'Th. VI-6.8'.

CVII-M04. Theorem 1.2: 'Jacobi identity VI-10.2' should be '(VI-5.7)'

- **Type:** cross-reference error.

- **Precise location:** printed p. 330, proof of Theorem 1.2, line introducing the second display.

- **Printed text:** The Jacobi identity VI-10.2 and relation 1.1 c) imply.

- **Issue:** (VI-10.2) is the formula $H^0(X, \mathbb{Z}) = \mathbb{Z}$, $H^1(X, \mathbb{Z}) = \mathbb{Z}^{2g}$, $H^2(X, \mathbb{Z}) = \mathbb{Z}$ for a compact curve (p. 317). The graded Jacobi identity $(-1)^{ca}\big[A, [B, C]\big] + (-1)^{ab}\big[B, [C, A]\big] + (-1)^{bc}\big[C, [A, B]\big] = 0$ used here is (VI-5.7), p. 301.

- **Correction / repair:** Replace 'VI-10.2' by 'VI-5.7'.

CVII-M05. [Demailly 1985] is not a key: read [Demailly 1984] (p. 330), [1985b] (p. 374)

- **Type:** cross-reference error.

- **Precise location:** printed p. 330, statement of Theorem 1.4; and p. 374, last paragraph of § VIII-5.

- **Printed text:** (1.4) Theorem ([Demailly 1985]). The operator $\Delta'_\tau = [D' + \tau, \delta' + \tau^\star]$ is a positive and formally self-adjoint operator ... (p. 330) — We present here a simplified proof which appeared in [Demailly 1985]. (p. 374).

- **Issue:** The References contain [Demailly 1985a]–[1985d] but no [Demailly 1985]. The modified Bochner–Kodaira–Nakano identity of Theorem VII-1.4 on a non-Kähler hermitian manifold is the paper "Sur l'identité de Bochner-Kodaira-Nakano en géométrie hermitienne", keyed [Demailly 1984] (and cited under that key on p. 306). The simplified proof on p. 374 of the vanishing theorem of [Abdelkader 1980] and [Ohsawa 1981] is "Sur les théorèmes d'annulation et de finitude de T. Ohsawa et O. Abdelkader", keyed [Demailly 1985b].

- **Correction / repair:** Replace [Demailly 1985] by [Demailly 1984] on p. 330 and by [Demailly 1985b] on p. 374.

CVII-M06. Lemma 1.5: 'Cor. VI-10.4' should be 'Cor. VI-5.9' (twice)

- **Type:** cross-reference error.
- **Precise location:** printed p. 331, proof of Lemma 1.5, parts a) and b) (two occurrences).
- **Printed text:** taking into account Cor. VI-10.4 and the fact that $d'\omega$ is of degree 3. ... Using again VI-10.4 and the Jacobi identity, we get.
- **Issue:** (VI-10.4), p. 317, is the Theorem 'Let a be a given point on a curve. Then every line bundle E has non zero meromorphic sections f with a pole at a and no other poles.' The result actually used, both to obtain $[L,\tau] = -\big[d'\omega, [L,\Lambda]\big] = 3d'\omega$ and in part b), is $[L,\Lambda]u = (p+q-n)u$, i.e. Corollary (VI-5.9), p. 301.
- **Correction / repair:** Replace both occurrences of 'VI-10.4' on p. 331 by 'VI-5.9'.

CVII-M07. Proof of Lemma 1.6: 'Lemma 1.5 b)' should be 'Lemma 1.5 a)'

- **Type:** cross-reference error.
- **Precise location:** printed p. 332, first line, continuation of the proof of Lemma 1.6 b).
- **Printed text:** Lemma 1.5 b) provides $[\tau, L] = -3d'\omega$, and it is clear that $[D', L] = d'\omega$.
- **Issue:** Lemma 1.5 b) states $[\Lambda,\tau] = -2\mathrm{i}\overline{\tau}^\star$ and has already been used, correctly, on p. 331 in the form $\overline{\tau}^\star = \frac{\mathrm{i}}{2}[\Lambda,\tau]$. The identity $[\tau, L] = -3d'\omega$ is Lemma 1.5 a), $[L,\tau] = 3d'\omega$, rewritten with the graded bracket (τ has degree 1 and L degree 2, so $[\tau, L] = -[L,\tau]$).
- **Correction / repair:** Replace 'Lemma 1.5 b)' by 'Lemma 1.5 a)'.

CVII-M08. Corollary 2.3: 'Cor. VI-11.2' should be 'Th. VI-7.2'

- **Type:** cross-reference error.
- **Precise location:** printed p. 333, line introducing Corollary 2.3.
- **Printed text:** Using Hodge theory (Cor. VI-11.2), we get:
- **Issue:** (VI-11.2) is the inequality $b_k = \sum_{p+q=k} \dim E_\infty^{p,q} \leqslant \sum_{p+q=k} h^{p,q}$ in §VI-11 on the Hodge-Frölicher spectral sequence (p. 322), and it is a displayed formula, not a corollary. What is used here is that $H^{p,q}(X,E)$ is finite dimensional and isomorphic to the space $\mathcal{H}^{p,q}(X,E)$ of harmonic forms, so that vanishing of the harmonic space forces $H^{p,q}(X,E) = 0$: this is the Hodge isomorphism theorem (VI-7.2), p. 309.
- **Correction / repair:** Replace 'Cor. VI-11.2' by 'Th. VI-7.2'.

CVII-M09. (3.2) and §7: 'Prop. VI-8.3' should be 'Prop. VI-5.8' (twice)

- **Type:** cross-reference error.
- **Precise location:** printed p. 334, line preceding formula (3.2); and printed p. 341, first line.
- **Printed text:** be a diagonalization of $\mathrm{i}\Theta(E)_x$. By Prop. VI-8.3 we have ... A simple computation as in the proof of Prop. VI-8.3 gives.
- **Issue:** (VI-8.3) is the canonical morphism $H^{p,q}_{BC}(X,\mathbb{C}) \to H^{p+q}_{DR}(X,\mathbb{C})$ of Bott-Chern cohomology (p. 310). The eigenvalue formula $[\gamma,\Lambda]u = \sum_{J,K}\big(\sum_{j\in J}\gamma_j + \sum_{j\in K}\gamma_j - \sum_{1\leqslant j\leqslant n}\gamma_j\big) u_{J,K}\, \zeta_J^\star \wedge \overline{\zeta}_K$ quoted in both places is Proposition (VI-5.8), p. 301.
- **Correction / repair:** Replace both occurrences of 'Prop. VI-8.3' (p. 334 and p. 341) by 'Prop. VI-5.8'.

CVII-M10. Theorem 3.3: Serre duality is (VI-7.3), not (VI-11.3)

- **Type:** cross-reference error.
- **Precise location:** printed p. 334, last sentence of the proof of Theorem 3.3.
- **Printed text:** One can also derive b) from a) by Serre duality (Theorem VI-11.3).
- **Issue:** (VI-11.3) is the 'Theorem and Definition' characterizing the degeneration of the Hodge-Frölicher spectral sequence, p. 322. The Serre duality theorem, 'The bilinear pairing $H^{p,q}(X,E)\times H^{n-p,n-q}(X,E^\star)\to\mathbb{C}$ is a non degenerate duality', is (VI-7.3), p. 310.
- **Correction / repair:** Replace 'Theorem VI-11.3' by 'Theorem VI-7.3'.

CVII-M11. Formula (3.6): global inner product where the pointwise one is meant

- **Type:** notation error.
- **Precise location:** printed p. 334, formula (3.6) in the proof of Theorem 3.5.
- **Printed text:** $\langle\!\langle [\mathrm{i}\Theta(E),\Lambda]u,u\rangle\!\rangle \geqslant (\gamma_1+\cdots+\gamma_q)|u|^2$.
- **Issue:** $\langle\!\langle\ ,\ \rangle\!\rangle$ denotes the global L^2 inner product (cf. (2.1)), whereas the right-hand side of (3.6) is pointwise: $|u|^2$ is the pointwise norm and the eigenvalues $\gamma_j=\gamma_j(x)$ vary with x. Formula (3.6) is the case $p=n$ of the pointwise inequality (3.2), which is written with single brackets, and it is used pointwise, since Cor. 2.5 is applied to the pointwise hermitian operator $[\mathrm{i}\Theta(E),\Lambda]$.
- **Correction / repair:** Replace $\langle\!\langle [\mathrm{i}\Theta(E),\Lambda]u,u\rangle\!\rangle$ by the pointwise inner product $\langle [\mathrm{i}\Theta(E),\Lambda]u,u\rangle$ in (3.6).

CVII-M12. §4: 'Th. 4.5' should be 'Th. 3.5'

- **Type:** cross-reference error.
- **Precise location:** printed p. 335, second sentence of the introductory paragraph of §4.
- **Printed text:** We first state the corresponding generalization of Th. 4.5.
- **Issue:** There is no Theorem 4.5: (4.5) is the Remark of Ramanujam printed at the foot of this very page. The statement generalized by Theorem 4.1 ($H^q(X,K_X\otimes E)=0$ for $q\geqslant s$ when $\mathrm{i}\Theta(E)\geqslant 0$ has at least $n-s+1$ positive eigenvalues at one point) is the Grauert-Riemenschneider theorem (3.5) a), which is the case $s=1$; the proof of (4.1) invokes (3.6) and Cor. 2.5 exactly as that of (3.5) a).
- **Correction / repair:** Replace 'Th. 4.5' by 'Th. 3.5'.

CVII-M13. §5: unresolved reference 'IX-?.?' for the Andreotti-Grauert theorem

- **Type:** cross-reference error.
- **Precise location:** printed p. 336, introductory paragraph of §5.
- **Printed text:** which can be seen as a consequence of the Andreotti-Grauert theorem [Andreotti-Grauert 1962], see IX-?.?;
- **Issue:** The cross-reference was never resolved. The Andreotti-Grauert theorem is Theorem (IX-4.10), p. 425, in §IX-4.F ('Statement and Proof of the Andreotti-Grauert Theorem'), with Corollary (IX-4.11).
- **Correction / repair:** Replace 'IX-?.?' by 'Th. IX-4.10'.

CVII-M14. Proof of Lemma 5.2: missing factor t^{p+q+1} in the Beta integral

- **Type:** mathematical error.
- **Precise location:** printed p. 337, proof of Lemma 5.2, line following the Fourier inversion formula.
- **Printed text:** The equality $\int_0^t (t-u)^p u^q\,du = p!\,q!/(p+q+1)!$ and obvious power series developments yield.
- **Issue:** The Euler Beta integral is $\int_0^t (t-u)^p u^q\,du = t^{p+q+1}\,\dfrac{p!\,q!}{(p+q+1)!}$ (substitute $u = ts$); the factor t^{p+q+1} is missing. For $p = q = 0$ the left-hand side equals t while the printed right-hand side equals 1. The factor is exactly what makes the term-by-term identification work: the coefficient of A^pBA^q in $\frac{d}{ds}\big|_{s=0}\sum_m \frac{(\mathrm{i}t)^m}{m!}(A+sB)^m$ is $\mathrm{i}^{p+q+1}t^{p+q+1}/(p+q+1)!$, which matches $\mathrm{i}\int_0^t e^{\mathrm{i}(t-u)A}Be^{\mathrm{i}uA}du$ only with the corrected identity.
- **Correction / repair:** Replace '$\int_0^t (t-u)^p u^q\,du = p!\,q!/(p+q+1)!$' by '$\int_0^t (t-u)^p u^q\,du = t^{p+q+1}\,p!\,q!/(p+q+1)!$'.

CVII-M15. Formula (6.9): missing minus sign in $\theta_{H^\star}(v,v)$

- **Type:** mathematical error.
- **Precise location:** printed p. 339, second line of formula (6.9) in Example 6.8.
- **Printed text:** $\theta_{H^\star}(v,v) = \sum v_{jj}\overline{v}_{\lambda\lambda} = \big|\sum v_{jj}\big|^2$.
- **Issue:** By (V-15.9), $\Theta(H)_a = \sum_{j,k} dz_j \wedge d\overline{z}_k \otimes \widetilde{e}_k^\star \otimes \widetilde{e}_j$, i.e. $c_{jk\lambda\mu} = \delta_{k\lambda}\delta_{j\mu}$ in the notation (6.1). Formula (6.7), $\theta_{E^\star}(v,v) = -\sum_{j,k,\mu,\lambda} c_{jk\mu\lambda} v_{j\lambda}\overline{v}_{k\mu}$, then gives $\theta_{H^\star}(v,v) = -\sum_{j,k} v_{jj}\overline{v}_{kk} = -\big|\sum_j v_{jj}\big|^2 \leqslant 0$. The minus sign is essential: the conclusion drawn on p. 340, '$H \geqslant_{\mathrm{Grif}} 0$ and $H^\star \leqslant_{\mathrm{Nak}} 0$', is consistent only with it ($H^\star$ is a subbundle of the trivial bundle $\underline{V}^\star$, hence Nakano semi-negative by Prop. 6.10 c)), whereas the printed sign would give $H^\star \geqslant_{\mathrm{Nak}} 0$.
- **Correction / repair:** Replace the second line of (6.9) by $\theta_{H^\star}(v,v) = -\sum v_{jj}\overline{v}_{\lambda\lambda} = -\big|\sum v_{jj}\big|^2$.

CVII-M16. Proposition 6.10: missing factor i in the curvature formulas

- **Type:** mathematical error.
- **Precise location:** printed p. 340, proof of Proposition 6.10, first two displayed formulas.
- **Printed text:** $\mathrm{i}\Theta(S) = \mathrm{i}\Theta(E)_{|S} - \sum dz_j \wedge d\overline{z}_k \otimes \beta_k^\star\beta_j, \qquad \mathrm{i}\Theta(Q) = \mathrm{i}\Theta(E)_{|Q} + \sum dz_j \wedge d\overline{z}_k \otimes \beta_j\beta_k^\star$.
- **Issue:** With $\beta = \sum_j dz_j \otimes \beta_j$ and $\beta^\star = \sum_k d\overline{z}_k \otimes \beta_k^\star$ one has $\beta^\star \wedge \beta = -\sum_{j,k} dz_j \wedge d\overline{z}_k \otimes \beta_k^\star\beta_j$ and $\beta \wedge \beta^\star = \sum_{j,k} dz_j \wedge d\overline{z}_k \otimes \beta_j\beta_k^\star$, so (V-14.6) and (V-14.7) give $\mathrm{i}\Theta(S) = \mathrm{i}\Theta(E)_{|S} - \mathrm{i}\sum dz_j \wedge d\overline{z}_k \otimes \beta_k^\star\beta_j$ and $\mathrm{i}\Theta(Q) = \mathrm{i}\Theta(E)_{|Q} + \mathrm{i}\sum dz_j \wedge d\overline{z}_k \otimes \beta_j\beta_k^\star$. The factor i is missing in both printed formulas; the formulas for θ_S and θ_Q that follow are correct and correspond to the corrected version, since by (6.1)-(6.2) the hermitian form attached to $\mathrm{i}\sum c_{jk\lambda\mu} dz_j \wedge d\overline{z}_k \otimes e_\lambda^\star \otimes e_\mu$ is $\sum c_{jk\lambda\mu} u_{j\lambda}\overline{u}_{k\mu}$.
- **Correction / repair:** Insert the factor i in front of both sums: '$-\mathrm{i}\sum dz_j \wedge d\overline{z}_k \otimes \beta_k^\star\beta_j$' and '$+\mathrm{i}\sum dz_j \wedge d\overline{z}_k \otimes \beta_j\beta_k^\star$'.

CVII-M17. Example 6.8: the last assertion requires $n \geqslant 2$

- **Type:** mathematical error.
- **Precise location:** printed p. 340, first line (conclusion of Example 6.8).
- **Printed text:** It is then clear that $H \geqslant_{\mathrm{Grif}} 0$ and $H^\star \leqslant_{\mathrm{Nak}} 0$, but H is neither $\geqslant_{\mathrm{Nak}} 0$ nor $\leqslant_{\mathrm{Nak}} 0$.

- **Issue:** By (6.9), $\theta_H(u,u) = \sum_{j,\lambda} u_{j\lambda}\overline{u}_{\lambda j}$. For $n \geqslant 2$ the choices $u_{12} = u_{21} = 1$ and $u_{12} = -u_{21} = 1$ (all other entries 0) give $\theta_H(u,u) = \pm 2$, which proves the assertion. For $n = 1$, however, H is the line bundle $T\mathbb{P}^1 \otimes \mathcal{O}(-1) \simeq \mathcal{O}(1)$ and $\theta_H(u,u) = |u_{11}|^2 \geqslant 0$, so $H >_{\mathrm{Nak}} 0$ and the assertion is false.

- **Correction / repair:** Restrict the last assertion to $n \geqslant 2$, e.g. 'but, for $n \geqslant 2$, H is neither $\geqslant_{\mathrm{Nak}} 0$ nor $\leqslant_{\mathrm{Nak}} 0$'.

CVII-M18. Proof of Proposition 9.1: 'Proposition 9.2' should be 'Proposition 8.2' (and is circular)

- **Type:** cross-reference error.

- **Precise location:** printed p. 346, first line, proof of Proposition 9.1, case b).

- **Printed text:** Proposition 9.2 applied to Θ' on $T \otimes F$ yields $\Theta' + \mathrm{Tr}_F\,\Theta' \otimes h = q\,\mathrm{Tr}_F\,\Theta_F \otimes h - \Theta_F >_q 0$.

- **Issue:** (9.2) is a Theorem, stated after Proposition 9.1 and deduced from it, so the reference has the wrong type and makes the argument circular. What is applied is Proposition 8.2 ($\Theta >_{\mathrm{Grif}} 0 \Rightarrow \Theta + \mathrm{Tr}_E\,\Theta \otimes h >_{\mathrm{Nak}} 0$) to $\Theta' = \mathrm{Tr}_F\,\Theta_F \otimes h - \Theta_F >_{\mathrm{Grif}} 0$ on $T \otimes F$ with $\dim F = q$: since $\mathrm{Tr}_F\,\Theta' = (q-1)\,\mathrm{Tr}_F\,\Theta_F$ one gets $\Theta' + \mathrm{Tr}_F\,\Theta' \otimes h = q\,\mathrm{Tr}_F\,\Theta_F \otimes h - \Theta_F$, and Nakano positivity on $T \otimes F$ is precisely $>_q 0$.

- **Correction / repair:** Replace 'Proposition 9.2' by 'Proposition 8.2'.

CVII-M19. Theorems 9.2 and 9.3: 'Prop. 8.1' should be 'Prop. 9.1' (twice)

- **Type:** cross-reference error.

- **Precise location:** printed p. 346, first line of the proof of Theorem 9.2, and last paragraph of the proof of Theorem 9.3.

- **Printed text:** Proof. Apply Prop. 8.1 to $\Theta = -\theta_{E^\star} >_{\mathrm{Grif}} 0$ and observe that $\theta_{\det E} = -\theta_{\det E^\star} = \mathrm{Tr}_{E^\star}\,\Theta$. ... By Prop. 8.1 applied to the corresponding hermitian form Θ on $TX \otimes S$, we get $m\,\mathrm{Tr}_S(-\mathrm{i}\beta^\star \wedge \beta) \otimes \mathrm{Id}_S + \mathrm{i}\beta^\star \wedge \beta \geqslant_m 0$.

- **Issue:** (8.1) is a Theorem ($E >_{\mathrm{Grif}} 0 \Rightarrow E \otimes \det E >_{\mathrm{Nak}} 0$) and yields neither conclusion. Both deductions are Proposition 9.1 ($\Theta >_{\mathrm{Grif}} 0 \Rightarrow m\,\mathrm{Tr}_E\,\Theta \otimes h - \Theta >_m 0$, together with its semi-positive version quoted just before (9.2)): with $\Theta = -\theta_{E^\star}$ one gets $\theta_{E^\star \otimes (\det E)^m} = \theta_{E^\star} + m\,\theta_{\det E} \otimes h = m\,\mathrm{Tr}_{E^\star}\,\Theta \otimes h - \Theta >_m 0$, and with $\Theta = -\mathrm{i}\beta^\star \wedge \beta \geqslant_{\mathrm{Nak}} 0$ one gets the displayed inequality.

- **Correction / repair:** Replace both occurrences of 'Prop. 8.1' on p. 346 by 'Prop. 9.1'.

CVII-M20. Corollary 9.4: 'mentioned after (4.5)' should be 'mentioned after (3.5)'

- **Type:** cross-reference error.

- **Precise location:** printed p. 347, remark following the proof of Corollary 9.4.

- **Printed text:** but this hypothesis can be removed by means of Siu's result mentioned after (4.5).

- **Issue:** Siu's result (that the Kähler assumption is unnecessary) is mentioned on p. 334 in the paragraph immediately following Theorem (3.5), the Grauert-Riemenschneider theorem; (4.5) is Ramanujam's Remark on pp. 335–336, which has nothing to do with it.

- **Correction / repair:** Replace 'mentioned after (4.5)' by 'mentioned after (3.5)'.

CVII-M21. Formula (10.2): 'Th. V-15.7' should be 'Prop. V-15.7'

- **Type:** cross-reference error.
- **Precise location:** printed p. 347, line preceding formula (10.2).
- **Printed text:** and as $T\mathbb{P}(V) = H \otimes \mathcal{O}(1)$ by Th. V-15.7, we find.
- **Issue:** (V-15.7) is a Proposition ('There is a canonical isomorphism of bundles $TP(V) \simeq H \otimes \mathcal{O}(1)$', p. 279), not a Theorem.
- **Correction / repair:** Replace 'Th. V-15.7' by 'Prop. V-15.7'.

CVII-M22. §10: the map μ' is not defined in §V-15

- **Type:** notation error.
- **Precise location:** printed p. 348, paragraph following the proof of Theorem 10.4 ('Let us consider now the canonical mappings').
- **Printed text:** $\pi : V \setminus \{0\} \longrightarrow P(V), \qquad \mu' : V \setminus \{0\} \longrightarrow \mathcal{O}(-1)$ defined in §V-15.
- **Issue:** No map called μ' is defined in §V-15: the map $V \setminus \{0\} \to \mathcal{O}(-1)$, $x \mapsto ([x], x)$, is denoted μ^{-1} there (proof of Lemma (V-15.4), p. 278, and $\mu^{-1}(x)^k$ in the proof of Cor. (V-15.6)). The undefined symbol μ' is then used in $\alpha(z) \otimes \mu'(z)^{-k}$ and in the proof of Theorem 10.6.
- **Correction / repair:** Write μ^{-1} instead of μ', or add 'where $\mu' := \mu^{-1}$ is the inverse of the map μ of Lemma (V-15.4)'.

CVII-M23. Theorem 10.7: 'Th. VI-13.3' does not exist; the reference is (VI-8.8)

- **Type:** cross-reference error.
- **Precise location:** printed p. 349, first bullet of the proof of Theorem 10.7.
- **Printed text:** $\overline{\mathrm{d}}$) is already known, and so is a) when $k = 0$ (Th. VI-13.3).
- **Issue:** Chapter VI has no §13 (it ends with §12, p. 328), hence no statement (VI-13.3). The computation $H^{p,p}(\mathbb{P}^n, \mathbb{C}) = \mathbb{C}$ for $0 \leqslant p \leqslant n$ and $H^{p,q}(\mathbb{P}^n, \mathbb{C}) = 0$ for $p \neq q$, which is what is quoted, is (VI-8.8) ('Application'), p. 312.
- **Correction / repair:** Replace 'Th. VI-13.3' by '(VI-8.8)'.

CVII-M24. Proposition 11.2: index range should be $k+1 \leqslant l \leqslant p$, not N

- **Type:** notation error.
- **Precise location:** printed p. 350, proof of Proposition 11.2, paragraph describing $R_k(T^p)$.
- **Printed text:** Therefore, we will have $x \in R_k(T^p)$ if and only if the coordinates of x_l, $k+1 \leqslant l \leqslant N$, relative to $b_1, \ldots, b_{r-k}$ vanish.
- **Issue:** $x = (x_1, \ldots, x_p)$ is a p-tuple in T^p, so the components involved are x_l with $k+1 \leqslant l \leqslant p$; N denotes the number of generating sections $s'_1, \ldots, s'_N$ fixed earlier and has nothing to do with the length of the tuple. With the correct range the conditions are $(p-k)(r-k)$ in number, which is exactly the codimension $(r-k)(p-k)$ asserted in the next sentence.
- **Correction / repair:** Replace '$k+1 \leqslant l \leqslant N$' by '$k+1 \leqslant l \leqslant p$'.

CVII-M25. Corollary 11.5: 'Prop. 6.11' does not exist; read 'Prop. 6.10'

- **Type:** cross-reference error.
- **Precise location:** printed p. 351, proof of Corollary 11.5.
- **Printed text:** Proof. Apply Prop. 6.11 to the exact sequence (11.3), where $\underline{V}$ is endowed with an arbitrary hermitian metric.
- **Issue:** §6 ends with Proposition 6.10 (p. 340); there is no statement 6.11. The properties used are 6.10 a) (a quotient of a Griffiths semi-positive bundle is Griffiths semi-positive) and 6.10 c) (a subbundle of a Nakano semi-negative bundle is Nakano semi-negative), applied to the trivial bundle $\underline{V}$ and to its dual.
- **Correction / repair:** Replace 'Prop. 6.11' by 'Prop. 6.10'.

CVII-M26. Proposition 11.9: 'Prop. 11.4' should be 'Prop. 11.2'

- **Type:** cross-reference error.
- **Precise location:** printed p. 352, proof of Proposition 11.9.
- **Printed text:** The arguments are exactly the same as in the proof of Prop. 11.4, if we consider instead the bundles $J^1E \to X$ and $E \times E \to X \times X \setminus \Delta_X$.
- **Issue:** (11.4) is a commutative diagram (p. 351), not a proposition. The Baire-category and Sard argument referred to is the proof of Proposition 11.2 (p. 350), whose bound $\dim V \leqslant \dim(\text{base}) + \text{rank}$ gives precisely $n + r(n+1) = nr + n + r$ for $J^1E \to X$ and $2n + 2r = 2(n+r)$ for $E \times E \to X \times X \setminus \Delta_X$, the two numbers occurring in the statement of 11.9.
- **Correction / repair:** Replace 'Prop. 11.4' by 'Prop. 11.2'.

CVII-M27. §12: chart $\widetilde{\tau}_j(z, [\xi])$ should end with $z_{s+1}, \ldots, z_n$

- **Type:** mathematical error.
- **Precise location:** printed p. 356, second of the two displayed formulas for the coordinate chart $\widetilde{\tau}_j$.
- **Printed text:** $\widetilde{\tau}_j(z, [\xi]) = (w_1, \ldots, w_n) = \Big(\frac{\xi_1}{\xi_j}, \ldots, \frac{\xi_{j-1}}{\xi_j}, 0, \frac{\xi_{j+1}}{\xi_j}, \ldots, \frac{\xi_s}{\xi_j}, \xi_{s+1}, \ldots, \xi_n\Big)$.
- **Issue:** The page states that $(\partial/\partial z_1, \ldots, \partial/\partial z_s)$ is a holomorphic frame of $NY_{|Y\cap U}$, that $(\xi_1, \ldots, \xi_s)$ are the corresponding fibre coordinates, and that $(\xi_1, \ldots, \xi_s, z_{s+1}, \ldots, z_n)$ are the coordinates on the total space of NY: there are no coordinates $\xi_{s+1}, \ldots, \xi_n$. Moreover the chart is defined by $w_k := z_k$ for $k > s$, so for $(z, [\xi]) \in P(NY)_{|Y\cap U}$ the last $n - s$ entries are the base coordinates $z_{s+1}, \ldots, z_n$ of $z \in Y \cap U$; this is also what (12.2) requires, since there $\sigma_j(w) = (\ldots; w_{s+1}, \ldots, w_n)$.
- **Correction / repair:** Replace '$\xi_{s+1}, \ldots, \xi_n$' by '$z_{s+1}, \ldots, z_n$' at the end of the formula for $\widetilde{\tau}_j(z, [\xi])$.

CVII-M28. Proposition 12.4 b): '(V-15.10)' should be '(V-15.8′)'

- **Type:** cross-reference error.
- **Precise location:** printed p. 357, proof of Proposition 12.4 b), second sentence.
- **Printed text:** The restriction of $\mathcal{O}_{P(NY)}(1)$ to each fiber $P(N_zY)$ is the standard line bundle $\mathcal{O}(1)$ over $\mathbb{P}^{s-1}$; thus by (V-15.10) this restriction has a positive definite curvature form.
- **Issue:** (V-15.10) is the Theorem 'The cohomology algebra $H^\bullet(\mathbb{P}^n, \mathbb{Z})$ is isomorphic to the quotient ring $\mathbb{Z}[h]/(h^{n+1})$' (p. 280), which says nothing about curvature. The positivity of the curvature of $\mathcal{O}(1)$ is formula (V-15.8), $\Theta(\mathcal{O}(1)) = d'd'' \log(1 + |z|^2)$, together with (V-15.8′), $\Theta(\mathcal{O}(1))_a = \sum_{1\leqslant j\leqslant n} dz_j \wedge d\overline{z}_j$ (p. 279).
- **Correction / repair:** Replace '(V-15.10)' by '(V-15.8′)'.

CVII-M29. Theorem 13.1, Lemma 13.2, Corollary 13.3: the hypothesis 'X compact' is missing

- **Type:** missing hypothesis.
- **Precise location:** printed p. 358, statements of Theorem 13.1 and Lemma 13.2; printed p. 359, statement of Corollary 13.3.
- **Printed text:** (13.1) Theorem. Let $L \to X$ be a positive line bundle and L^k the k-th tensor power of L.
- **Issue:** Compactness of X is neither assumed in these three statements nor a standing hypothesis of §§11–13: Definition 11.1 introduces bundles 'over an arbitrary complex manifold X', §12 begins with 'Let X be a complex n-dimensional manifold', and Proposition 12.4 b) explicitly adds 'Assume that X is compact'. Yet the proof of Lemma 13.2 applies Prop. 12.4 b) and the Kodaira-Nakano vanishing theorem of §3, both stated for compact manifolds, and the proof of Theorem 13.1 solves $d''u = w$ on $\widetilde{X}$ by Hodge theory, which also requires $\widetilde{X}$ compact. Corollary 13.3 is Kodaira's criterion, valid for compact X.
- **Correction / repair:** Add 'over a compact complex manifold X' to the statements of (13.1), (13.2) and (13.3), or open §13 with the standing assumption that X is compact.

CVII-M30. Corollary 13.3: no uniformity in the points when deducing ampleness from Theorem 13.1

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 359, proof of Corollary 13.3, second half of the sentence.
- **Printed text:** Proof. a) $\Longrightarrow$ b) is given by Cor. 11.12, whereas b) $\Longrightarrow$ a) is a consequence of Th. 13.1 for $m = 1$.
- **Issue:** In Theorem 13.1 the constant C depends on the N-tuple: 'For every N-tuple $(x_1, \ldots, x_N)$ of distinct points of X, there exists a constant $C > 0$'. The proof produces $C = k_0 + C_0(m + n - 1)$, where C_0 comes from Prop. 12.4 b) applied to the blow-up of X along $Y = \{x_1, \ldots, x_N\}$ and therefore depends on the points. Very ampleness of L^k (Def. 11.7 a)) requires a single k for which $H^0(X, L^k) \to (J^1L^k)_x$ and $H^0(X, L^k) \to L^k_x \oplus L^k_y$ are onto simultaneously for all x and all pairs $x \neq y$, so a uniformity statement is needed and is not supplied.
- **Correction / repair:** Insert the missing uniformity argument. For instance: for fixed k the set S_k of points x at which $H^0(X, L^k) \to (J^1L^k)_x$ is onto is open, and multiplication by a section of $L^{k'}$ not vanishing at x shows that $x \in S_k \cap \{s \neq 0\}$, $s \in H^0(X, L^{k'})$, implies $x \in S_{k+k'}$. Given x, Theorem 13.1 provides κ with $x \in S_\kappa \cap S_{\kappa+1}$ and sections $s \in H^0(X, L^\kappa)$, $s' \in H^0(X, L^{\kappa+1})$ with $s(x) \neq 0 \neq s'(x)$; on the open neighbourhood $S_\kappa \cap S_{\kappa+1} \cap \{s \neq 0\} \cap \{s' \neq 0\}$ of x one then gets surjectivity for every $k \geqslant \kappa^2$, since every integer $\geqslant \kappa(\kappa - 1)$ lies in the semigroup generated by κ and $\kappa + 1$. The same argument applies to pairs (x, y), $x \neq y$, and, near the diagonal, surjectivity onto $(J^1L^k)_x$ already separates x from all nearby points; compactness of $X \times X$ then yields a uniform k_0 such that L^k is very ample for all $k \geqslant k_0$.

CVII-M31. Proof of Theorem 13.1: h is a section of $\mathcal{O}(E)$, not of $\mathcal{O}(E)^{-1}$

- **Type:** notation error.
- **Precise location:** printed p. 359, proof of Theorem 13.1, sentence 'Let h be the canonical section ...'.
- **Printed text:** Let h be the canonical section of $\mathcal{O}(E)^{-1}$ such that $\mathrm{div}(h) = [E]$.
- **Issue:** A holomorphic section whose divisor is E is a section of $\mathcal{O}(E)$, not of $\mathcal{O}(E)^{-1} = \mathcal{O}(-E)$; on p. 357 the same section is correctly introduced as '$h \in H^0(\widetilde{X}, \mathcal{O}(E))$ the canonical section such that $\mathrm{div}(h) = [E]$'. The rest of the proof is consistent only with $h \in H^0(\widetilde{X}, \mathcal{O}(E))$: then $w = h^{-(m+1)}\sigma^\star d''v$ is a section of $\mathcal{O}(-(m+1)E) \otimes \sigma^\star L^k$ and $h^{m+1}u$ a section of $\sigma^\star L^k$.
- **Correction / repair:** Replace '$\mathcal{O}(E)^{-1}$' by '$\mathcal{O}(E)$'.

CVII-M32. Theorem 14.1: Chow's theorem is (II-8.10), not (II-7.10)

- **Type:** cross-reference error.
- **Precise location:** printed p. 360, proof of Theorem 14.1, implication b) $\Rightarrow$ a).
- **Printed text:** Thus X can be embedded in $\mathbb{P}^{2n+1}$ and Chow's theorem II-7.10 shows that the image is an algebraic set in $\mathbb{P}^{2n+1}$.
- **Issue:** (II-7.10) is 'Examples' in §II-7, on the normalization of complex spaces (p. 114). Chow's theorem is (II-8.10), p. 121: 'Chow's theorem ([Chow 1949]). Let A be an analytic subset of the complex projective space ...'.
- **Correction / repair:** Replace 'Chow's theorem II-7.10' by 'Chow's theorem II-8.10'.

CVII-M33. Corollary 14.4: 'X compact' is missing (the statement is false without it)

- **Type:** missing hypothesis.
- **Precise location:** printed p. 360, statement of Corollary 14.4.
- **Printed text:** (14.4) Corollary. Every Kähler manifold (X, ω) such that $H^2(X, \mathcal{O}) = 0$ is projective.
- **Issue:** Compactness of X is missing and the statement is false without it: $X = \mathbb{C}^n$, or a polydisc, or any Stein Kähler manifold, satisfies $H^2(X, \mathcal{O}) = 0$ and is not projective. The proof uses compactness at every step: the Hodge decomposition and the identification $H^2(X, \mathbb{C}) = H^{1,1}(X, \mathbb{C})$, the uniqueness of the harmonic representative of $\{\omega\}$, the finiteness of the basis $\{\alpha_1\}, \ldots, \{\alpha_N\}$ of $H^2(X, \mathbb{Q})$, and Theorem 14.1, which is stated for compact X.
- **Correction / repair:** Replace by 'Every compact Kähler manifold (X, ω) such that $H^2(X, \mathcal{O}) = 0$ is projective.'.

CVII-M34. Corollary 14.5: the circles T_j must be defined for $1 \leqslant j \leqslant 2n$

- **Type:** mathematical error.
- **Precise location:** printed p. 360, proof of Corollary 14.5 (sufficiency), definition of the tori T_j, T_{jk}.
- **Printed text:** $T_j = (\mathbb{R}/\mathbb{Z})a_j, \quad 1 \leqslant j \leqslant n, \qquad T_{jk} = T_j \oplus T_k, \quad 1 \leqslant j < k \leqslant 2n.$
- **Issue:** The lattice $\Gamma \subset \mathbb{C}^n$ has an integral basis $(a_1, \ldots, a_{2n})$ of $2n$ vectors, so the circles T_j must be defined for $1 \leqslant j \leqslant 2n$. This is required by the definition of T_{jk} for $1 \leqslant j < k \leqslant 2n$ on the same line, and by the very next sentence, 'Topologically we have $X \approx T_1 \times \cdots \times T_{2n}$' (p. 361).
- **Correction / repair:** Replace '$1 \leqslant j \leqslant n$' by '$1 \leqslant j \leqslant 2n$'.

CVII-M35. Example 14.7: missing minus sign in $\operatorname{Im} h(\gamma_1'', \gamma_2'')$

- **Type:** mathematical error.
- **Precise location:** printed p. 361, last display of Example 14.7.
- **Printed text:** $\operatorname{Im} h(\gamma_1'', \gamma_2'') = \int_X (\gamma_1' \wedge \gamma_2'' + \gamma_1'' \wedge \gamma_2') \wedge \omega^{n-1} = \int_X \gamma_1 \wedge \gamma_2 \wedge \omega^{n-1} \in \mathbb{Z}$.
- **Issue:** With $h(u, v) = \int_X -2\mathrm{i}\, u \wedge \overline{v} \wedge \omega^{n-1}$ and $A = \int_X \gamma_1'' \wedge \gamma_2' \wedge \omega^{n-1}$ one has $h(\gamma_1'', \gamma_2'') = -2\mathrm{i}A$ (note $\overline{\gamma_2''} = \gamma_2'$, since γ_2 is real), whence $\operatorname{Im} h(\gamma_1'', \gamma_2'') = -2 \operatorname{Re} A = -(A + \overline{A}) = -\int_X (\gamma_1' \wedge \gamma_2'' + \gamma_1'' \wedge \gamma_2') \wedge \omega^{n-1} = -\int_X \gamma_1 \wedge \gamma_2 \wedge \omega^{n-1}$. Check on $X = \mathbb{C}/\mathbb{Z}[\mathrm{i}]$ ($n = 1$) with $\gamma_1 = dx$, $\gamma_2 = dy$ and $\int_X dx \wedge dy = 1$: here $\gamma_1'' = d\overline{z}/2$, $\gamma_2' = -\mathrm{i}\, dz/2$, so $A = 1/2$ and $\operatorname{Im} h(\gamma_1'', \gamma_2'') = -1$, whereas $\int_X \gamma_1 \wedge \gamma_2 = +1$. (The conclusion that the number is an integer is unaffected.)
- **Correction / repair:** Insert an overall minus sign: $\operatorname{Im} h(\gamma_1'', \gamma_2'') = -\int_X (\gamma_1' \wedge \gamma_2'' + \gamma_1'' \wedge \gamma_2') \wedge \omega^{n-1} = -\int_X \gamma_1 \wedge \gamma_2 \wedge \omega^{n-1} \in \mathbb{Z}$.

CVII-M36. Corollary 14.5: sign inconsistency, $\widetilde{\omega} = -\operatorname{Im} h$

- **Type:** notation error.
- **Precise location:** printed p. 361, proof of Corollary 14.5 (necessity), last sentence.
- **Printed text:** Now $\widetilde{\omega}$ is the imaginary part of a constant positive definite hermitian form h on $\mathbb{C}^n$, and formula (14.6) shows that $\operatorname{Im} h(a_j, a_k) \in \mathbb{Z}$.
- **Issue:** The sufficiency part of the same proof sets '$\omega = -\operatorname{Im} h$', and (14.6) reads $\{\omega\}_{|T_{jk}} = \omega(a_j, a_k) = -\operatorname{Im} h(a_j, a_k)$. With the book's convention (h linear in the first variable) the Kähler form associated with a positive definite h is $-\operatorname{Im} h$: for $h(u,v) = \sum u_j \overline{v}_j$ one has $-\operatorname{Im} h(e_1, \mathrm{i}e_1) = 1 > 0$, in agreement with $\omega = \sum dx_j \wedge dy_j$. Hence, if $\widetilde{\omega} = \operatorname{Im} h$, then h is negative definite, contrary to the statement of Corollary 14.5. (The integrality conclusion is unaffected.)
- **Correction / repair:** Replace 'is the imaginary part of' by 'is minus the imaginary part of', i.e. $\widetilde{\omega} = -\operatorname{Im} h$.

CVII-M37. Corollary 14.5: the Künneth formula is (IV-15.10), not (IV-15.7)

- **Type:** cross-reference error.
- **Precise location:** printed p. 361, first line, proof of Corollary 14.5 (sufficiency).
- **Printed text:** so the Künneth formula IV-15.7 yields.
- **Issue:** (IV-15.7) is the auxiliary long exact sequence $\cdots \to H^l(B \otimes L)^\bullet \to H^l(Z \otimes L)^\bullet \to \dots$ occurring inside the proof of the algebraic Künneth formula (p. 242). The Künneth formula for the sheaf cohomology of a product of topological spaces is Theorem (IV-15.10), p. 244; the version directly applicable here (torsion free constant coefficients $\mathbb{Z}$, factors T_j of the homotopy type of a finite cell complex) is Corollary (IV-15.12), p. 245.
- **Correction / repair:** Replace 'the Künneth formula IV-15.7' by 'the Künneth formula IV-15.10' (or 'Cor. IV-15.12').

CVII-M38. Example 14.7: '§VI-13' should be '§VI-9'

- **Type:** cross-reference error.
- **Precise location:** printed p. 361, first sentence of Example 14.7.
- **Printed text:** the Jacobian $\operatorname{Jac}(X)$ and the Albanese variety $\operatorname{Alb}(X)$ (cf. §VI-13 for definitions).
- **Issue:** Chapter VI has no §13; it ends with §12 (p. 328). The Jacobian and the Albanese variety are defined in §VI-9, 'Jacobian and Albanese Varieties', pp. 314–316 (§9.1 Description of the Picard group, §9.2 Albanese variety).
- **Correction / repair:** Replace '§VI-13' by '§VI-9'.

Typographical and editorial corrections

- **CVII-T01.** printed p. 329, chapter introduction, fourth sentence; and printed p. 336, introductory paragraph of §5. *Printed:* the special case where $E > 0$ (that is, $s = 1$) is due to [Kodaira 1953] and [Serre 1956]. *Correction:* Replace '[Kodaira 1953]' by '[Kodaira 1953b]' on p. 336, and '[Kodaira 1953, 1954]' by '[Kodaira 1953b, 1954]' on p. 329.
- **CVII-T02.** printed p. 329, chapter introduction, third sentence. *Printed:* introduced by Grothendieck [EGA 1960-67] and developped further by [Nakai 1963] and [Hartshorne 1966] is also discussed. *Issue:* "developped" (from the French *développé*) is a misspelling of "developed". *Correction:* Replace "developped" by "developed".

- **CVII-T03.** printed p. 330, attribution in the label of Corollary 1.3. *Printed:* (1.3) Corollary ([Akizuki-Nakano 1955]). *Correction:* Replace '[Akizuki-Nakano 1955]' by '[Akizuki-Nakano 1954]'.

- **CVII-T04.** printed p. 330, attribution in the label of Theorem 1.4. *Printed:* (1.4) Theorem ([Demailly 1985]). *Correction:* Replace '[Demailly 1985]' by '[Demailly 1984]'.

- **CVII-T05.** printed p. 331, line preceding formula (1.11). *Printed:* Let us compute now the second Lie bracket in the right hand side of (1.10: *Issue:* The closing parenthesis of the equation number is missing. *Correction:* Replace '(1.10:' by '(1.10):'.

- **CVII-T06.** printed p. 335, first sentence of Remark 4.5. *Printed:* The following example due to [Ramanujam 1972, 1974] shows that. *Issue:* The References (p. 453) contain the single entry 'Ramanujam, C.P. [1974] — Remarks on the Kodaira vanishing theorem, J. Indian Math. Soc. 36 (1972) 41–50; 38 (1974) 121–124', which already covers both the 1972 paper and its 1974 supplement; there is no key [Ramanujam 1972]. *Correction:* Cite '[Ramanujam 1974]' alone, or split the bibliography entry into [Ramanujam 1972] and [Ramanujam 1974].

- **CVII-T07.** printed p. 338, display defining $\theta_E(u,u)$ in §6. *Printed:* $\theta_E(u,u) = \sum_{j,k,\lambda,\mu} c_{jk\lambda\mu}(x)\, u_{j\lambda}\overline{u}_{k\mu}, \qquad u \in T_xX \otimes E_x.(6.2)$. *Issue:* The equation number (6.2) is typeset immediately after the text of the display rather than at the right margin, so that it appears glued to the sentence. *Correction:* Move the tag (6.2) to the right margin of the display.

- **CVII-T08.** printed p. 343 ('Proof of Proposition 8.2..'), p. 359 ('Proof of Theorem 13.1..'), p. 360 ('Proof (Sufficiency of the condition)..'), p. 361 ('Proof (Necessity of the condition)..'). *Printed:* Proof of Proposition 8.2.. Let $(t_j)_{1\leqslant j\leqslant n}$ be a basis of T. *Issue:* The proof environment appends a period to a heading that already ends with one, producing '..' in these four places. *Correction:* Delete the superfluous period in each of the four headings.

- **CVII-T09.** printed p. 348, displayed isomorphism in the statement of Theorem 10.4. *Printed:* $C^{\bullet,k}(V^\star) = \Lambda^p V^\star \otimes S^{k-p}V^\star \simeq Z^{p,k}(V^\star) \oplus Z^{p-1,k}(V^\star)$. *Issue:* $C^{\bullet,k}$ denotes the whole complex, whereas both the middle term $\Lambda^p V^\star \otimes S^{k-p}V^\star$ and the right-hand side depend on p; by (10.3) the graded piece is $C^{p,k}(V^\star) = \Lambda^p V^\star \otimes S^{k-p}V^\star$. *Correction:* Replace '$C^{\bullet,k}(V^\star)$' by '$C^{p,k}(V^\star)$' in the display of Theorem 10.4.

- **CVII-T10.** printed p. 354, paragraph following Problem 11.14. *Printed:* Griffiths' problem has been solved in the affirmative when X is a curve (see [Umemura 1973] and also [Campana-Flenner 1990]). *Issue:* There is no entry for Campana or Flenner in the References (pp. 449–455), so the citation key is dangling. The intended reference is F. Campana, H. Flenner, *A characterization of ample vector bundles on a curve*, Math. Ann. 287 (1990) 571–575. *Correction:* Add to the References: 'Campana, F., Flenner, H. [1990] — A characterization of ample vector bundles on a curve, Math. Ann. 287 (1990) 571–575.'.

- **CVII-T11.** printed p. 355, paragraph under the figure, §12. *Printed:* When Y is reduced to a single point, the geometric picture is given by Fig. 1 below. *Issue:* The figure is printed at the top of the same page, i.e. above this sentence, and it is captioned 'VII-1 Blow-up of one point in X', not 'Fig. 1'. *Correction:* Replace 'Fig. 1 below' by 'Fig. VII-1 above'.

- **CVII-T12.** printed p. 357, proof of Proposition 12.4 b), third sentence. *Printed:* Extend now the metric of $\mathcal{O}_{P(NY)}(1)$ on E to a metric of $\mathcal{O}(-E)$ on X in an arbitrary way. *Issue:* E is the exceptional divisor of the blow-up, so $\mathcal{O}(-E)$ is a line bundle over $\widetilde{X}$ and not over X; the remainder of the proof indeed works on $\widetilde{X}$ ('$\mathrm{i}\big(\Theta(\mathcal{O}(-E)) + C_0\sigma^\star\Theta(L)\big) > 0$ on $\widetilde{X}$', '$t \in T_z\widetilde{X}$'). *Correction:* Replace 'on X' by 'on $\widetilde{X}$'.

- **CVII-T13.** printed p. 360, last sentence of the proof of Corollary 14.4. *Printed:* then $\widetilde{\omega} := \mu_1\alpha_1 + \cdots \mu_N\alpha_N$ is close to ω. *Issue:* A plus sign is missing between the ellipsis and the last term (compare the two preceding displays, $\{\omega\} = \lambda_1\{\alpha_1\} + \cdots + \lambda_N\{\alpha_N\}$). *Correction:* Replace '$\mu_1\alpha_1 + \cdots \mu_N\alpha_N$' by '$\mu_1\alpha_1 + \cdots + \mu_N\alpha_N$'.

Chapter VIII. L^2 Estimates on Pseudoconvex Manifolds

Range checked: printed pp. 363–402.

Mathematical corrections, cross-references and proof clarifications

CVIII-M01. § 1 p. 363: $\operatorname{Gr} T^\star$ should be the reversed graph $\{(T^\star y, y)\}$

- **Type:** notation error.
- **Precise location:** printed p. 363, § 1, sentence following the construction of $T^\star$.
- **Printed text:** It is immediate to verify that $\operatorname{Gr} T^\star = \big(\operatorname{Gr}(-T)\big)^\perp$ in $\mathcal{H}_1 \times \mathcal{H}_2$.
- **Issue:** With the definition $\operatorname{Gr} T = \{(x, Tx)\,;\, x \in \operatorname{Dom} T\}$ given four lines above, $\operatorname{Gr} T^\star = \{(y, T^\star y)\,;\, y \in \operatorname{Dom} T^\star\}$ is a subspace of $\mathcal{H}_2 \times \mathcal{H}_1$ and cannot be an orthogonal complement inside $\mathcal{H}_1 \times \mathcal{H}_2$. A direct computation gives $\big(\operatorname{Gr}(-T)\big)^\perp = \{(u, v)\,;\, \langle u, x\rangle_1 = \langle v, Tx\rangle_2\ \forall x \in \operatorname{Dom} T\} = \{(T^\star y, y)\,;\, y \in \operatorname{Dom} T^\star\}$, i.e. the reversed graph, which is exactly the object appearing in the next display $(u, v) = (x, -Tx) + (T^\star y, y)$.
- **Correction / repair:** Replace "$\operatorname{Gr} T^\star = \big(\operatorname{Gr}(-T)\big)^\perp$ in $\mathcal{H}_1 \times \mathcal{H}_2$" by "$\{(T^\star y, y)\,;\, y \in \operatorname{Dom} T^\star\} = \big(\operatorname{Gr}(-T)\big)^\perp$ in $\mathcal{H}_1 \times \mathcal{H}_2$".

CVIII-M02. Lemma 2.2: the proof writes M for the metric space E

- **Type:** notation error.
- **Precise location:** printed p. 366, proof of Lemma 2.2, implication a) ⇒ b).
- **Printed text:** axiom (2.1) shows that we can find points $z_\nu \in M$ such that $\delta(x_0, z_\nu) \leqslant (1 - 2^{-p})R \ldots$ the Cauchy sequence (w_p) converges to a limit point $w \in M$.
- **Issue:** Lemma 2.2 concerns an abstract geodesic metric space (E, δ); the riemannian manifold M of § 2 plays no role in it. The two occurrences of M in the proof should be E.
- **Correction / repair:** In the proof of Lemma 2.2 replace "$z_\nu \in M$" by "$z_\nu \in E$" and "$w \in M$" by "$w \in E$".

CVIII-M03. Lemma 2.4: the cut-off profile cannot satisfy $0 \leqslant \rho' \leqslant 2$

- **Type:** mathematical error.
- **Precise location:** printed p. 367, proof of Lemma 2.4, implication b) ⇒ c), choice of the cut-off profile ρ.
- **Printed text:** Choose ψ as in a) and a function $\rho \in \mathcal{C}^\infty(\mathbb{R}, \mathbb{R})$ such that $\rho = 1$ on $]-\infty, 1.1]$, $\rho = 0$ on $[1.9, +\infty[$ and $0 \leqslant \rho' \leqslant 2$ on $[1, 2]$.
- **Issue:** The two prescribed values force ρ to decrease from 1 to 0 on $[1.1, 1.9]$, hence $\rho' \leqslant 0$ there; the printed condition $0 \leqslant \rho' \leqslant 2$ would force $\rho' \equiv 0$ on $[1, 2]$ and therefore $1 = \rho(1.1) = \rho(1.9) = 0$. What the proof uses is the bound $|\rho'| \leqslant 2$, which is achievable since ρ must drop by 1 over an interval of length 0.8 (so $\sup|\rho'|$ can be taken as close to 1.25 as one wishes); it gives $|d\psi_\nu|_g = |\rho'(2^{-\nu-1}\psi)|\, 2^{-\nu-1} |d\psi|_g \leqslant 2 \cdot 2^{-\nu-1} = 2^{-\nu}$, which is the estimate required in 2.4 c).
- **Correction / repair:** Replace "$0 \leqslant \rho' \leqslant 2$ on $[1, 2]$" by "$-2 \leqslant \rho' \leqslant 0$ on $[1, 2]$" (equivalently $|\rho'| \leqslant 2$).

CVIII-M04. § 3 p. 368: the operators D, δ, Δ are those of § VI-3, not § VI-2

- **Type:** cross-reference error.
- **Precise location:** printed p. 368, paragraph beginning "Let $E \to M$ be a differentiable hermitian bundle".
- **Printed text:** In what follows, we still denote by D, δ, Δ the differential operators of § VI-2 extended in the sense of distribution theory (as explained above).
- **Issue:** § VI-2 (pp. 289-291) is "Formalism of PseudoDifferential Operators" and contains no connection, no formal adjoint and no Laplacian on a hermitian bundle. The hermitian connection D_E, its formal adjoint $D_E^\star = (-1)^{mp+1} \star D_E \star$ (formula (VI-3.13)) and the Laplace-Beltrami operator $\Delta_E = D_E D_E^\star +$

$D_E^\star D_E$ (Definition VI-3.14) are introduced in § VI-3, "Harmonic Forms and Hodge Theory on Riemannian Manifolds", pp. 294-295.

- **Correction / repair:** Replace "§ VI-2" by "§ VI-3".

CVIII-M05. § 4 p. 370: (4.2) follows from the inequality (VII-2.1), not from "identity VII-2.3"

- **Type:** cross-reference error.
- **Precise location:** printed p. 370, § 4, sentence following inequality (4.2).
- **Printed text:** In fact (4.2) is true for all $u \in \mathcal{D}_{p,q}(X,E)$ in view of the Bochner-Kodaira-Nakano identity VII-2.3, and this result is easily extended to every u in $\mathrm{Dom}\, D'' \cap \mathrm{Dom}\, \delta''$ by density of $\mathcal{D}_{p,q}(X,E)$ (Th. 3.2 a)).
- **Issue:** (VII-2.3), p. 333, is a Corollary ("If the hermitian operator $[i\Theta(E),\Lambda] + T_\omega$ is positive definite on $\Lambda^{p,q}T^\star X \otimes E$, then $H^{p,q}(X,E) = 0$"); it is neither an identity nor the statement used here. Inequality (4.2) is exactly the Bochner-Kodaira-Nakano inequality (VII-2.1), $\|D''u\|^2 + \|\delta''u\|^2 \geqslant \int_X \big(\langle[i\Theta(E),\Lambda]u,u\rangle + \langle T_\omega u,u\rangle\big)\, dV$, itself a consequence of the Bochner-Kodaira-Nakano identity Th. VII-1.4. (Formula (VII-2.1) is stated there for a compact X, but its proof applies verbatim on any hermitian manifold to compactly supported forms.)
- **Correction / repair:** Replace "the Bochner-Kodaira-Nakano identity VII-2.3" by "the Bochner-Kodaira-Nakano inequality (VII-2.1)".

CVIII-M06. § 5 p. 372: unresolved reference "Prop. IX-?.?"

- **Type:** cross-reference error.
- **Precise location:** printed p. 372, paragraph following Definition 5.1, last sentence.
- **Printed text:** Other examples that will appear later are Stein manifolds, or the total space of a Griffiths semi-negative vector bundle over a compact manifold (cf. Prop. IX-?.?).
- **Issue:** The cross-reference was never resolved. Chapter IX contains no statement about total spaces of Griffiths semi-negative vector bundles, so the pointer has no target.
- **Correction / repair:** Delete "(cf. Prop. IX-?.?)", or replace it by an explicit justification: if $E \to M$ is Griffiths semi-negative over a compact M, then $\psi(\xi) = |\xi|^2$ is a plurisubharmonic exhaustion of the total space of E, so that total space is weakly pseudoconvex.

CVIII-M07. § 5 p. 372: "Th. I-4.14" should be "Th. I-7.2"

- **Type:** cross-reference error.
- **Precise location:** printed p. 372, paragraph following Definition 5.1, first sentence.
- **Printed text:** For domains $\Omega \subset \mathbb{C}^n$, the above weak pseudoconvexity notion is equivalent to pseudoconvexity (cf. Th. I-4.14).
- **Issue:** (I-4.14), p. 34, is the "Maximum principle" for subharmonic functions and is unrelated to pseudoconvexity. The equivalence used here is Theorem I-7.2, p. 54, which states that for an open set $\Omega \subset \mathbb{C}^n$ the properties a) Ω strongly pseudoconvex, b) Ω weakly pseudoconvex, c) Ω has a plurisubharmonic exhaustion function, d) $-\log \delta_\Omega(z,\xi)$ plurisubharmonic, e) $-\log d(z, \complement\Omega)$ plurisubharmonic, are equivalent.
- **Correction / repair:** Replace "Th. I-4.14" by "Th. I-7.2".

CVIII-M08. Theorem 5.6: "Cor. VI-8.4" should be "Cor. VI-5.9"

- **Type:** cross-reference error.
- **Precise location:** printed p. 373, proof of Theorem 5.6, sentence "Apply now Th. 4.5 to (X, E_χ, ω_χ) and observe that ...".
- **Printed text:** observe that $A_{E_\chi,\omega_\chi} = [i\Theta(E_\chi), \Lambda_\chi] = (p+q-n)\,\mathrm{Id}$ in bidegree (p,q) in virtue of Cor. VI-8.4 It remains to show that ....
- **Issue:** (VI-8.4), p. 311, is the displayed formula $H^k(X,\mathbb{C}) = \bigoplus_{p+q=k} \mathcal{H}^{p,q}(X,\mathbb{C})$ of Hodge theory, not a statement about $[L,\Lambda]$. Since $\omega_\chi = i\Theta(E_\chi)$ here, the identity used is $[L,\Lambda]u = (p+q-n)u$ for $u \in \Lambda^{p,q}T^\star_X$, which is Corollary VI-5.9, p. 301.
- **Correction / repair:** Replace "Cor. VI-8.4" by "Cor. VI-5.9", and add the missing full stop: "... in virtue of Cor. VI-5.9. It remains to show ...".

CVIII-M09. Theorem 5.8: "Th. VI-8.3" should be "Prop. VI-5.8"

- **Type:** cross-reference error.
- **Precise location:** printed p. 375, proof of Theorem 5.8, sentence introducing the lower bound for $\langle [i\Theta(E_\chi), \Lambda_\alpha]u, u\rangle_\alpha$.
- **Printed text:** and Th. VI-8.3 implies $\langle [i\Theta(E_\chi), \Lambda_\alpha]u, u\rangle_\alpha \geqslant \big(\gamma_1^{\chi,\alpha} + \cdots + \gamma_p^{\chi,\alpha} - \gamma_{q+1}^{\chi,\alpha} - \ldots - \gamma_n^{\chi,\alpha}\big)|u|^2$.
- **Issue:** (VI-8.3), p. 310, is the displayed canonical morphism $H^{p,q}_{BC}(X,\mathbb{C}) \to H^{p+q}_{DR}(X,\mathbb{C})$; it is neither a theorem nor related to curvature eigenvalues. The result used is Proposition VI-5.8, p. 301, $\langle[\gamma,\Lambda]u,u\rangle = \sum_{J,K}\big(\sum_{j\in J}\gamma_j + \sum_{j\in K}\gamma_j - \sum_{1\leqslant j\leqslant n}\gamma_j\big)|u_{J,K}|^2$, whose minimum over $|J| = p$, $|K| = q$ with $\gamma_1 \leqslant \cdots \leqslant \gamma_n$ is precisely $\gamma_1 + \cdots + \gamma_p - \gamma_{q+1} - \cdots - \gamma_n$ (the same estimate is recorded as (VII-3.2)). The same misprint "VI-8.3" for "VI-5.8" occurs on pp. 334, 341, 377 and 420.
- **Correction / repair:** Replace "Th. VI-8.3" by "Prop. VI-5.8".

CVIII-M10. Formula (6.4): "formula VI-8.3" should be "Prop. VI-5.8"

- **Type:** cross-reference error.
- **Precise location:** printed p. 377, paragraph following the proof of Lemma 6.3, sentence introducing (6.4).
- **Printed text:** If we let $0 \leqslant \lambda_1(x) \leqslant \ldots \leqslant \lambda_n(x)$ be the eigenvalues of $i\Theta(E)_x$ with respect to ω_x for all $x \in X$, formula VI-8.3 implies $\langle A_q u, u\rangle \geqslant (\lambda_1 + \cdots + \lambda_q)|u|^2$.
- **Issue:** (VI-8.3), p. 310, is the displayed canonical morphism $H^{p,q}_{BC}(X,\mathbb{C}) \to H^{p+q}_{DR}(X,\mathbb{C})$. The lower bound quoted follows from Proposition VI-5.8, p. 301 (equivalently from formula (VII-7.1)): for $u = \sum u_K\, dz_1 \wedge \cdots \wedge dz_n \wedge d\overline{z}_K$ of type (n,q) one gets $\langle [i\Theta(E),\Lambda]u,u\rangle = \sum_{|K|=q}\big(\sum_{j\in K}\lambda_j\big)|u_K|^2 \geqslant (\lambda_1 + \cdots + \lambda_q)|u|^2$.
- **Correction / repair:** Replace "formula VI-8.3" by "Prop. VI-5.8" (or by "formula (VII-7.1)").

CVIII-M11. Theorem 6.9: "Cor. 6.5" should be "Th. 6.5"

- **Type:** cross-reference error.
- **Precise location:** printed p. 379, proof of Theorem 6.9, sentence following Lemma 6.10.
- **Printed text:** The Lemma implies $e^{-\tau}/\lambda_1 \leqslant 2(1+|z|^2)/\varepsilon^2$, thus Cor. 6.5 provides an f such that.
- **Issue:** The statement invoked is "(6.5) Theorem. Let (X,ω) be a weakly pseudoconvex Kähler manifold ..." on p. 378, a Theorem and not a Corollary; Chapter VIII has no statement numbered 6.5 of any other type.
- **Correction / repair:** Replace "Cor. 6.5" by "Th. 6.5".

CVIII-M12. Theorem 6.9: the hypothesis $q \geqslant 1$ is not stated

- **Type:** missing hypothesis.
- **Precise location:** printed p. 379, statement of Theorem 6.9.
- **Printed text:** For every $\varepsilon \in]0,1]$ and every $g \in L^2_{p,q}(\Omega, \mathrm{loc})$ such that $d''g = 0$ and $\int_\Omega (1+|z|^2)|g|^2 e^{-\varphi} dV < +\infty$, we can find a L^2_{loc} form f of type $(p, q-1)$ such that $d''f = g$ and $\int_\Omega (1+|z|^2)^{-\varepsilon}|f|^2 e^{-\varphi}\, dV \leqslant \frac{4}{q\varepsilon^2}\int_\Omega (1+|z|^2)|g|^2 e^{-\varphi}\, dV$.
- **Issue:** The restriction $q \geqslant 1$ is omitted: for $q = 0$ there is no form of type $(p, -1)$ and the constant $4/(q\varepsilon^2)$ is not defined. Theorem 6.5, on which the proof relies, explicitly assumes $q \geqslant 1$.
- **Correction / repair:** Add "$q \geqslant 1$" to the hypotheses of Theorem 6.9.

CVIII-M13. Theorem 6.9: the letter ε denotes two different quantities in the proof

- **Type:** notation error.
- **Precise location:** printed p. 379, last sentence of the proof of Theorem 6.9.
- **Printed text:** If φ is not smooth, apply the result to a sequence of regularized weights $\rho_\varepsilon \star \varphi \geqslant \varphi$ on an increasing sequence of domains $\Omega_c \Subset \Omega$, and extract a weakly convergent subsequence of solutions.
- **Issue:** In Theorem 6.9, $\varepsilon \in]0,1]$ is a fixed exponent occurring in $\tau = \log\big(1 + (1+|z|^2)^\varepsilon\big)$, in the weight $(1+|z|^2)^{-\varepsilon}$ and in the constant $4/(q\varepsilon^2)$. Using the same letter for the convolution parameter, which has to tend to 0 in the last step, makes the limiting argument ambiguous.
- **Correction / repair:** Use a different letter for the regularization parameter, e.g. "$\rho_\delta \star \varphi \geqslant \varphi$" with $\delta \to 0$.

CVIII-M14. [Demailly 1982] is not a key: read [1982c] (p. 380), [1982a] (p. 387)

- **Type:** cross-reference error.
- **Precise location:** printed p. 380, § 7, first paragraph.
- **Printed text:** The following result [Demailly 1982] is an improvement and a generalization of Jennane's extension theorem [Jennane 1976]. (p. 380) — this case was first verified independently by [Chudnovsky 1979] and [Demailly 1982]. (p. 387).
- **Issue:** The References contain [Demailly 1982a], [1982b] and [1982c] but no [Demailly 1982]. The L^2 extension theorem VIII-7.1 belongs to "Estimations L^2 pour l'opérateur $\overline{\partial}$ d'un fibré vectoriel holomorphe semi-positif au dessus d'une variété kählérienne complète", Ann. Sci. École Norm. Sup. 15 (1982), i.e. [Demailly 1982c] (cited under that key on pp. 347, 363, 389). The verification of Chudnovsky's conjecture for $n = 2$ belongs to "Formules de Jensen en plusieurs variables et applications arithmétiques", i.e. [Demailly 1982a], which is indeed the key used two lines further down on the same page.
- **Correction / repair:** Replace [Demailly 1982] by [Demailly 1982c] on p. 380 and by [Demailly 1982a] on p. 387.

CVIII-M15. Theorem 7.1, Lemma 7.2: the section σ must be holomorphic

- **Type:** missing hypothesis.
- **Precise location:** printed p. 380, statement of Theorem 7.1 and statement of Lemma 7.2.
- **Printed text:** Let Y be an analytic subset of X such that $Y = \sigma^{-1}(0)$ for some section σ of E ... (7.2) Lemma. ... $Y = \sigma^{-1}(0)$ an analytic subset defined by a section of a hermitian vector bundle $E \to X$.
- **Issue:** The proofs use $D''\sigma = 0$ twice: in $d'\tau = \{D'\sigma, \sigma\}/|\sigma|^2$ (in general $d'|\sigma|^2 = \{D'\sigma, \sigma\} + \{\sigma, D''\sigma\}$) and in $D''D'\sigma = D^2\sigma = \Theta(E)\sigma$; the computation of $d''h$ on p. 381 uses it again. A merely smooth section can have an analytic zero set, so "section" alone does not convey the hypothesis.

- **Correction / repair:** Write "for some holomorphic section σ of E" in Theorem 7.1, and "defined by a holomorphic section of a hermitian vector bundle $E \to X$" in Lemma 7.2.

CVIII-M16. Theorem 7.1: missing factor $|\sigma|^2$ in the Cauchy-Schwarz inequality

- **Type:** mathematical error.
- **Precise location:** printed p. 381, proof of Theorem 7.1, sentence preceding the computation of $id'd'' \log(1+|\sigma|^2)$.
- **Printed text:** Notice that φ is singular along Y. The Cauchy-Schwarz inequality implies $i\{D'\sigma, \sigma\} \wedge \{\sigma, D'\sigma\} \leqslant i\{D'\sigma, D'\sigma\}$ as in Lemma 7.2, and we find.
- **Issue:** Evaluating both sides on $\xi \in T_X$ gives $i\{D'\sigma, \sigma\} \wedge \{\sigma, D'\sigma\}(\xi, \overline{\xi}) = |\langle D'\sigma \cdot \xi, \sigma\rangle|^2$ and $i\{D'\sigma, D'\sigma\}(\xi, \overline{\xi}) = |D'\sigma \cdot \xi|^2$, and Cauchy-Schwarz gives $|\langle D'\sigma \cdot \xi, \sigma\rangle|^2 \leqslant |\sigma|^2 |D'\sigma \cdot \xi|^2$, i.e. $i\{D'\sigma, \sigma\} \wedge \{\sigma, D'\sigma\} \leqslant |\sigma|^2\, i\{D'\sigma, D'\sigma\}$. The printed form drops $|\sigma|^2$; it is not invariant under $\sigma \mapsto \lambda\sigma$ and already fails for $E = X \times \mathbb{C}$, σ a holomorphic function with $|\sigma| > 1$ (the two sides are then $|\sigma'|^2|\sigma|^2$ and $|\sigma'|^2$ times $i\, dz \wedge d\overline{z}$). It is moreover too weak for the next display: to obtain $\big[(1+|\sigma|^2) i\{D'\sigma, D'\sigma\} - i\{D'\sigma, \sigma\} \wedge \{\sigma, D'\sigma\}\big]/(1+|\sigma|^2)^2 \geqslant i\{D'\sigma, D'\sigma\}/(1+|\sigma|^2)^2$ one needs exactly $i\{D'\sigma, \sigma\} \wedge \{\sigma, D'\sigma\} \leqslant |\sigma|^2\, i\{D'\sigma, D'\sigma\}$; the $|\sigma|^2$-version is used once more in the last step of the curvature chain, $\varepsilon\, i\{D'\sigma, D'\sigma\}/(1+|\sigma|^2)^2 \geqslant \varepsilon\, i\{D'\sigma, \sigma\} \wedge \{\sigma, D'\sigma\}/\big(|\sigma|^2(1+|\sigma|^2)^2\big)$.
- **Correction / repair:** Replace "$i\{D'\sigma, \sigma\} \wedge \{\sigma, D'\sigma\} \leqslant i\{D'\sigma, D'\sigma\}$" by "$i\{D'\sigma, \sigma\} \wedge \{\sigma, D'\sigma\} \leqslant |\sigma|^2\, i\{D'\sigma, D'\sigma\}$".

CVIII-M17. Corollary 7.5 b): the open set is U', not U

- **Type:** mathematical error.
- **Precise location:** printed p. 383, statement of Corollary 7.5: the sentence "For every $\varepsilon > 0$ and every holomorphic function f on U" and the right-hand side of item b).
- **Printed text:** a) $U = \{z \in \Omega\,;\, |\sigma(z)|^2 < e^{-\psi(z)}\}$, resp. b) $U' = \{z \in \Omega\,;\, |\sigma(z)|^2 < e^{\psi(z)}\}$. For every $\varepsilon > 0$ and every holomorphic function f on U, there exists a holomorphic function F on Ω such that $F_{|Y} = f_{|Y}$ and ... b) $\int_\Omega \frac{|F|^2 e^{-\varphi}}{(e^\psi + |\sigma|^2)^{p+\varepsilon}}\, dV \leqslant \left(1 + \frac{(p+1)^2}{\varepsilon}\right) \int_U |f|^2 e^{-\varphi-(p+\varepsilon)\psi}\, dV$.
- **Issue:** The set U' is defined in item b) of the hypotheses and then never used: the quantifier says "f holomorphic on U" and the right-hand integral of b) is taken over U. But the proof (p. 384) treats case b) by applying Th. 7.1 to $E = \Omega \times \mathbb{C}^r$ with the weight $e^{-\psi}$ and $L = \Omega \times \mathbb{C}$ with the weight $e^{-\varphi-(p+\varepsilon)\psi}$, so that the open set $\{|\sigma|_E < 1\}$ of Th. 7.1 is $\{|\sigma|^2 e^{-\psi} < 1\} = U'$; the proof of the Hörmander-Bombieri-Skoda theorem 7.6 confirms this, since it applies Cor. 7.5 b) with $\psi \equiv \log r^2$ and $U = B(z_0, r) = \{|\sigma|^2 < e^\psi\} = U'$. Consistency check: $\big(1 + |\sigma|^2 e^{-\psi}\big)^{-(p+\varepsilon)} e^{-\varphi-(p+\varepsilon)\psi} = e^{-\varphi}(e^\psi + |\sigma|^2)^{-(p+\varepsilon)}$, which is the left-hand side of b).
- **Correction / repair:** Read "for every holomorphic function f on U (resp. on U')", and replace $\int_U$ by $\int_{U'}$ in the right-hand side of item b).

CVIII-M18. Theorem VIII-7.6: [Skoda 1975] should be [Skoda 1976]

- **Type:** cross-reference error.
- **Precise location:** printed p. 384, paragraph following Theorem 7.6 (Hörmander-Bombieri-Skoda theorem).
- **Printed text:** [Bombieri 1970] originally stated the theorem with the exponent $3n$ instead of $n + \varepsilon$; the improved exponent $n + \varepsilon$ is due to [Skoda 1975].
- **Issue:** No reference is keyed 1975. The improvement of Bombieri's exponent is "Estimations L^2 pour l'opérateur $\overline{\partial}$ et applications arithmétiques", Séminaire P. Lelong 1975/76, Lecture Notes in Math. 538, listed as Skoda, H. [1976]; the same theorem is cited as [Skoda 1976] on p. 179.

- **Correction / repair:** Replace [Skoda 1975] by [Skoda 1976].

CVIII-M19. Proposition 8.1: the local equations f_j must be reduced, not irreducible

- **Type:** mathematical error.
- **Precise location:** printed p. 384, statement of Proposition 8.1, first sentence.
- **Printed text:** Let $x \in X$ and $f_j = 0$, $1 \leqslant j \leqslant N$, irreducible equations of Z_j on a neighborhood U of x.
- **Issue:** The Z_j are the (globally) irreducible components of Δ, but the germ (Z_j, x) need not be irreducible – an irreducible nodal curve has two smooth branches at its node – so an irreducible local equation $f_j \in \mathcal{O}_{X,x}$ need not exist. What is used in a) ($\mu(\Delta, x) = \sum \lambda_j \operatorname{ord}_x f_j$), in b) (the equations $f_{j_1} = \cdots = f_{j_p} = 0$, $df_{j_1} \wedge \cdots \wedge df_{j_p} = 0$ describing $\operatorname{nnc}(\Delta)$) and in c) ($\varphi = \sum 2\lambda_j \log|f_j|$) is only that f_j be a reduced local equation, i.e. a generator of the ideal of Z_j on U.
- **Correction / repair:** Replace "irreducible equations of Z_j" by "reduced equations of Z_j", i.e. generators of the ideal sheaf $\mathcal{I}_{Z_j}$ on U.

CVIII-M20. Proof of Prop. 8.1 c): wrong indices on the exponents λ_l

- **Type:** notation error.
- **Precise location:** printed p. 385, proof of Proposition 8.1 c), the displayed integral estimate at a normal crossing point.
- **Printed text:**
$$\int_U \frac{d\lambda(z)}{\prod |f_j(z)|^{2\lambda_j}} \leqslant \int_U \frac{C\, d\lambda(w)}{|w_1|^{2\lambda_1} \ldots |w_s|^{2\lambda_s}} < +\infty$$
.
- **Issue:** Two lines above, the local coordinates are chosen so that $w_1 = f_{j_1}(z), \ldots, w_s = f_{j_s}(z)$, where $j_1, \ldots, j_s$ are the indices of the branches through x (the remaining f_j are units near x). The exponent attached to w_l must therefore be $2\lambda_{j_l}$; with the printed indices the exponents belong to the wrong branches, and $\lambda_1, \ldots, \lambda_s$ need not even be coefficients of branches passing through x.
- **Correction / repair:** Replace $|w_1|^{2\lambda_1} \ldots |w_s|^{2\lambda_s}$ by $|w_1|^{2\lambda_{j_1}} \ldots |w_s|^{2\lambda_{j_s}}$.

CVIII-M21. Comment after Th. 8.6: $a \leqslant 2$ should be $a \leqslant n-2$

- **Type:** mathematical error.
- **Precise location:** printed p. 386, comment following Theorem 8.6, sentence beginning "If we let t_2 tend to infinity".
- **Printed text:** If we let t_2 tend to infinity and observe that $\operatorname{nil}(\Delta) \subset \operatorname{nnc}(\Delta)$ by Prop. 8.1 c), we get $a \leqslant 2$ and.
- **Issue:** What the inclusion gives is $a \leqslant n-2$: by Prop. 8.1 b) a point of $\operatorname{nnc}(\Delta)$ lies on a singular Z_j or on two distinct Z_j, so $\operatorname{nnc}(\Delta) \subset \bigcup_j \operatorname{Sing} Z_j \cup \bigcup_{j \neq k} (Z_j \cap Z_k)$, each of which has dimension $\leqslant n-2$ in $\mathbb{P}^n$. As printed the assertion is false as soon as $n \geqslant 5$ (where $a = 3$ can occur), and it is in any case insufficient: the inequality of Th. 8.6 is $\frac{\omega_{t_1}(S)+n-a-1}{t_1+n-1} \leqslant \frac{\omega_{t_2}(S)}{t_2}$, so deducing (8.7) requires $n-a-1 \geqslant 1$, i.e. exactly $a \leqslant n-2$. With $a \leqslant 2$ nothing follows for $n = 2$ or $n = 3$, yet (8.7) is invoked for $n = 2$ three lines below ("Chudnovsky's conjecture is true for $n = 2$ (as shown by (8.7))").
- **Correction / repair:** Replace "we get $a \leqslant 2$" by "we get $a \leqslant n-2$".

CVIII-M22. Theorem 8.6: the case $\mathrm{nil}(\Delta) = \emptyset$ needs $a = 0$

- **Type:** mathematical error.
- **Precise location:** printed p. 386, statement of Theorem 8.6 (definition of a and the displayed inequality); printed p. 388, second case of the proof.
- **Printed text:** $a = \dim\big(\mathrm{nil}(\Delta)\big)$. Then we have the inequality $\frac{\omega_{t_1}(S)+n-a-1}{t_1+n-1} \leqslant \frac{\omega_{t_2}(S)}{t_2}$.
- **Issue:** $\mathrm{nil}(\Delta)$ may be empty, and then the inequality is false under the convention $\dim\emptyset < 0$ that the book itself uses (Bertini's lemma 8.9: "$\dim(E \cap Y) \leqslant a - k$ (when $k > a$ this means that $E \cap Y = \emptyset$)"). Example: $n = 2$, $S = \{w\}$, $t_1 = t_2 = t$, $P = L^t$ with L a linear form vanishing at w. Then $\omega_t(S) = t$, $\alpha = (t+1)/t$, $k_1\alpha = t+1 \in \mathbb{Z}$, hence $\Delta = 0$ and $\mathrm{nil}(\Delta) = \emptyset$; with $a = -1$ the inequality would read $(t+2)/(t+1) \leqslant 1$. The proof gives the inequality only with a replaced by $\max\{a, 0\}$: its second case ends with $\omega_{t_1}(S) \leqslant \alpha D - n + 1$, which is the required $\alpha D + a + 1 - n$ only when $a \geqslant 0$, and it uses the printed step $[\beta - n + 1] < -a \leqslant 0$; the first case applies Bertini's lemma to a subspace of codimension $a + 1 \geqslant 1$.
- **Correction / repair:** In the statement of Th. 8.6 set $a = \max\{\dim \mathrm{nil}(\Delta), 0\}$, i.e. take $a = 0$ when $\mathrm{nil}(\Delta) = \emptyset$.

CVIII-M23. Comment after Th. 8.6: unresolved cross-reference "??.?.?"

- **Type:** cross-reference error.
- **Precise location:** printed p. 387, first paragraph, sentence on the case where S is a complete polytope.
- **Printed text:** The conjecture can also be verified in case S is a complete polytope, and the lower bound of the conjecture is then optimal (see [Demailly 1982a] and ??.?.?).
- **Issue:** A LaTeX cross-reference was never resolved and is printed literally as "??.?.?".
- **Correction / repair:** Supply the intended pointer, or delete "and ??.?.?". (The conjecture, the Esnault-Viehweg bound and the examples of [Demailly 1982a] are discussed in Remark III-10.8, p. 192.)

CVIII-M24. Proof of Th. 8.6: E should be $\mathcal{O}(1) \otimes \mathbb{C}^{a+1}$, not $\mathcal{O}(1)$

- **Type:** mathematical error.
- **Precise location:** printed p. 387, proof of Theorem 8.6, third and fourth lines.
- **Printed text:** There are sections $\sigma_1, \ldots, \sigma_{a+1}$ of $\mathcal{O}(1)$ such that $Y = \sigma^{-1}(0)$. We shall apply Th. 7.1 to $E = \mathcal{O}(1)$ with its standard hermitian metric.
- **Issue:** In Th. 7.1, σ is a section of the hermitian vector bundle E, $Y = \sigma^{-1}(0)$, and p is the maximal codimension of the irreducible components of Y, so necessarily $p \leqslant \mathrm{rk}\, E$. Here $\sigma = (\sigma_1, \ldots, \sigma_{a+1})$ has $a + 1$ components and Y is a linear subspace of codimension $a + 1$; with $E = \mathcal{O}(1)$ of rank one, $\sigma^{-1}(0)$ would be a hypersurface and $p = 1$, whereas $p = a + 1$ is used two lines below in the curvature condition $i\Theta(L_\varphi) \geqslant (a + 1 + \varepsilon)\, i\Theta(E)$ and in $k = [\alpha D] + a + 2$.
- **Correction / repair:** Replace "$E = \mathcal{O}(1)$" by "$E = \mathcal{O}(1) \otimes \mathbb{C}^{a+1}$" (i.e. $\mathcal{O}(1)^{\oplus(a+1)}$) with its standard hermitian metric, so that $\mathrm{rk}\, E = a + 1 = p$ and $\{i\Theta(E)\sigma, \sigma\} = |\sigma|^2\, i\Theta(\mathcal{O}(1))$.

CVIII-M25. Proof of Th. 9.3: "Th. 4.5" should be "Th. 6.1"

- **Type:** cross-reference error.
- **Precise location:** printed p. 389, last line of the page, and printed p. 390, first line.
- **Printed text:** and for that, we apply Th. 4.5 to the $(n, k+1)$-form $\beta^\star \wedge f$. ... Th. 4.5 yields a solution u of (9.4).

- **Issue:** Th. 4.5 requires the metric ω to be complete; Th. 9.3 only assumes that (X, ω) is Kähler and that X possesses some other complete Kähler metric $\widehat{\omega}$, which is precisely the setting of Th. 6.1 (complete $\widehat{\omega}$, arbitrary Kähler ω, E m-semi-positive, $q \geqslant 1$, $m \geqslant \min\{n-q+1, r\}$). With $q = k+1$ and $E = S \otimes L$ the hypotheses of Th. 6.1 read $m \geqslant \min\{n-k, s\}$ and $i\Theta(S \otimes L) \geqslant_m 0$, which is exactly what the chain of inequalities in the proof of Lemma 9.5 establishes, and its L^2 hypothesis is exactly Lemma 9.5.

- **Correction / repair:** Replace "Th. 4.5" by "Th. 6.1" in both places.

CVIII-M26. Lemma 9.5: A_k acts in bidegree $(n, k+1)$, i.e. it is A_{k+1}

- **Type:** notation error.

- **Precise location:** printed p. 389, statement of Lemma 9.5; printed p. 390, formula (9.6).

- **Printed text:** (9.5) Lemma. $\langle A_k^{-1}(\beta^\star \wedge f), (\beta^\star \wedge f)\rangle \leqslant (m/\varepsilon)\,|f|^2$.

- **Issue:** Th. 6.1 defines A_q as the operator $[i\Theta(E), \Lambda]$ acting in bidegree (n, q), and this is the notation in which the L^2 hypothesis must be checked. Here $\beta^\star \wedge f$ is of type $(n, k+1)$ and (9.6) applies $A_{k,S\otimes L}$ to $v \in \Lambda^{n,k+1}T_X^\star \otimes S \otimes L$, so the operator meant is $A_{k+1} = A_{k+1,S\otimes L}$; the index k is used with two different meanings.

- **Correction / repair:** Write A_{k+1} (resp. $A_{k+1,S\otimes L}$), or state explicitly in Lemma 9.5 that A_k denotes $[i\Theta(S \otimes L), \Lambda]$ acting on $(n, k+1)$-forms.

CVIII-M27. Proof of Lemma 9.5: "Th. VII-10.3" should be "Th. VII-9.3"

- **Type:** cross-reference error.

- **Precise location:** printed p. 390, first sentence of the proof of Lemma 9.5.

- **Printed text:** Exactly as in the proof of Th. VII-10.3, formulas (V-14.6) and (V-14.7) yield.

- **Issue:** (VII-10.3) is a displayed formula on p. 347 (the definition of the homological complex $C^{\bullet,k}(V^\star)$), not a theorem. The proof meant is that of Th. VII-9.3 (p. 346), "$0 \to S \to E \to Q \to 0$, $E >_m 0 \Rightarrow S \otimes (\det Q)^m >_m 0$", which deduces $i\Theta(S) >_m i\beta^\star \wedge \beta$ and $i\Theta(\det Q) > \mathrm{Tr}_Q(i\beta \wedge \beta^\star) = \mathrm{Tr}_S(-i\beta^\star \wedge \beta)$ from (V-14.6) and (V-14.7).

- **Correction / repair:** Replace "Th. VII-10.3" by "Th. VII-9.3".

CVIII-M28. Proof of Lemma 9.5: "Prop. VII-10.1" should be "Prop. VII-9.1"

- **Type:** cross-reference error.

- **Precise location:** printed p. 390, proof of Lemma 9.5, third sentence.

- **Printed text:** Since $\mathcal{C}^\infty_{1,1}(X, \mathrm{Herm}\, S) \ni \Theta := -i\beta^\star \wedge \beta \geqslant_{\mathrm{Grif}} 0$, Prop. VII-10.1 implies.

- **Issue:** (VII-10.1) is the displayed exact sequence $0 \to \mathcal{O}(-1) \to \underline{V} \to H \to 0$ over $\mathbb{P}^n$ (p. 347), not a proposition. The result applied is Prop. VII-9.1 (p. 345): $\Theta >_{\mathrm{Grif}} 0 \Rightarrow m\,\mathrm{Tr}_E \Theta \otimes h - \Theta >_m 0$; with $\Theta = -i\beta^\star \wedge \beta$ it gives precisely $m\,\mathrm{Tr}_S(-i\beta^\star \wedge \beta) \otimes \mathrm{Id}_S + i\beta^\star \wedge \beta \geqslant_m 0$.

- **Correction / repair:** Replace "Prop. VII-10.1" by "Prop. VII-9.1" (both references of this page are off by one section).

CVIII-M29. Comment after Cor. 9.7: VII-9.4 is a Corollary, not a Theorem

- **Type:** cross-reference error.

- **Precise location:** printed p. 391, comment after Corollary 9.7, sentence on the coboundary morphism.

- **Printed text:** however the cohomology group $H^{k+1}(X, K_X \otimes S \otimes L)$ itself does not vanish in general as it would do under a strict positivity assumption (cf. Th. VII-9.4).

- **Issue:** (9.4) of Chapter VII is a Corollary (pp. 346-347), not a Theorem; the relevant part is c): if $E >_m 0$ with $m = \min\{n-q+1, \operatorname{rk} S\}$ and $L \otimes (\det Q)^{-m} \geqslant 0$, then $H^{n,q}(X, S \otimes L) = 0$.

- **Correction / repair:** Replace "Th. VII-9.4" by "Cor. VII-9.4 c)".

CVIII-M30. Comment after Th. 9.10: the Levi problem is in §I-6.C, not §I-4

- **Type:** cross-reference error.

- **Precise location:** printed p. 392, paragraph after Theorem 9.10, first sentence.

- **Printed text:** This last theorem can be used in order to obtain a quick solution of the Levi problem mentioned in §I-4.

- **Issue:** §I-4 is "Subharmonic Functions" (pp. 29-38) and does not mention the Levi problem. The problem is stated in §I-6.C "Stein Manifolds", p. 51, just after Th. I-6.18: "The converse problem to know whether every strongly pseudoconvex manifold is actually a Stein manifold is known as the Levi problem ... Our proof will rely on the theory of L^2 estimates for d'', which will be available only in Chapter VIII."

- **Correction / repair:** Replace "§I-4" by "§I-6.C" (p. 51).

CVIII-M31. Theorem 9.10: the last integral should be over $\Omega \setminus Z$

- **Type:** notation error.

- **Precise location:** printed p. 392, Theorem 9.10, final displayed estimate.

- **Printed text:**
$$\int_{\Omega \setminus Y} |h|^2 \, |g|^{-2(m+\varepsilon)} e^{-\varphi} \, dV \leqslant (1 + m/\varepsilon) I$$
.

- **Issue:** The statement of Th. 9.10 introduces $Z = g^{-1}(0)$ and uses it in the definition of I; the symbol Y is never defined in the statement. It refers to the non-surjectivity locus $Y = \{x;\ g_x \text{ not surjective}\}$ of the preceding discussion, which in this special case ($Q = \Omega \times \mathbb{C}$) is exactly Z.

- **Correction / repair:** Replace $\int_{\Omega \setminus Y}$ by $\int_{\Omega \setminus Z}$.

CVIII-M32. Proof of Th. 9.11 b): "Th. I-4.12" is not the result used

- **Type:** cross-reference error.

- **Precise location:** printed p. 393, first sentence of the proof of Theorem 9.11 b).

- **Printed text:** Proof. b) By Th. I-4.12, it is enough to verify that Ω is a domain of holomorphy, i.e. that for every connected open subset U such that $U \cap \partial\Omega \neq \emptyset$ ...

- **Issue:** (I-4.12) is the "Theorem and definition" listing the equivalent forms of the mean value inequality that characterize subharmonic functions (p. 33); it has nothing to do with domains of holomorphy. The implication needed here is that a domain of holomorphy is pseudoconvex, which in this book is Th. I-6.11 (a)⇒b): a domain of holomorphy is holomorphically convex, p. 48) combined with Th. I-6.14 (a holomorphically convex manifold is weakly pseudoconvex, p. 49). The property recalled after "i.e." is Def. I-6.1.

- **Correction / repair:** Replace "Th. I-4.12" by "Th. I-6.11 and Th. I-6.14"; the definition recalled in the same sentence is Def. I-6.1.

CVIII-M33. Proof of Th. 9.11 a): "Th. I-4.14 c)" should be "Th. I-7.2 e)"

- **Type:** cross-reference error.
- **Precise location:** printed p. 393, proof of Theorem 9.11 a), second sentence.
- **Printed text:** By Th. I-4.14 c) the function $\varphi(z) = (n+\varepsilon)(\log(1+|z|^2) - 2\log d(z, \complement\Omega))$ is plurisubharmonic on Ω.
- **Issue:** (I-4.14) is the maximum principle for subharmonic functions (p. 34) and has no items a), b), c). The property used is that $-\log d(z, \complement\Omega)$ is plurisubharmonic on a pseudoconvex open set, which is item e) of Th. I-7.2 (p. 54), the theorem listing the equivalent characterizations of pseudoconvexity.
- **Correction / repair:** Replace "Th. I-4.14 c)" by "Th. I-7.2 e)".

CVIII-M34. §10: the ideal $\overline{\mathcal{I}}$ is used but never defined

- **Type:** notation error.
- **Precise location:** printed p. 394, Theorem 10.4 a); printed p. 395, Corollary 10.5 a) and its proof.
- **Printed text:** a) $\widehat{\mathcal{I}}^{(k+1)} = \mathcal{I}\widehat{\mathcal{I}}^{(k)} = \overline{\mathcal{I}}\widehat{\mathcal{I}}^{(k)}$ for $k \geqslant p$.
- **Issue:** Def. 10.1 a) introduces only the ideals $\overline{\mathcal{I}}^{(k)}$, $k \in \mathbb{R}_+$. The symbol $\overline{\mathcal{I}}$ without exponent, used in Th. 10.4 a), in Cor. 10.5 a) ("the ideal $\overline{\mathcal{I}}$ is the integral closure of $\mathcal{I}$") and repeatedly in the proof of Cor. 10.5, is never defined; it always means $\overline{\mathcal{I}}^{(1)}$.
- **Correction / repair:** Add "we write $\overline{\mathcal{I}} = \overline{\mathcal{I}}^{(1)}$" after Def. 10.1 a), or write $\overline{\mathcal{I}}^{(1)}$ throughout.

CVIII-M35. Proof of Th. 10.4 a): "For $k \geqslant p - 1$" should be "For $k \geqslant p$"

- **Type:** mathematical error.
- **Precise location:** printed p. 395, proof of Theorem 10.4 a), case $r \leqslant n$.
- **Printed text:** For $k \geqslant p-1$, we can apply Th. 9.10 with $m = r-1$ and with the weight $\varphi = (k-m)\log|g|^2$.
- **Issue:** Th. 9.10 requires φ to be plurisubharmonic, i.e. $k - m \geqslant 0$. In the case $r \leqslant n$ treated here $m = \min\{n, r-1\} = r-1$ and $p = \min\{n-1, r-1\} = r-1 = m$, so the correct range is $k \geqslant p$, exactly as in the statement of a). For $k = p-1$ the weight is $-\log|g|^2$, which is not psh, and the conclusion $\widehat{\mathcal{I}}^{(k+1)} \subset \mathcal{I}\widehat{\mathcal{I}}^{(k)}$ is false: for $n = r = 2$, $\mathcal{I} = (z_1, z_2)$, $p = 1$, $k = 0$, one has $1 \in \widehat{\mathcal{I}}^{(1)}$ (since $\int_{|z|<1} |z|^{-2-2\varepsilon} dV < +\infty$ in $\mathbb{C}^2$) while $\mathcal{I}\widehat{\mathcal{I}}^{(0)} = \mathcal{I} \not\ni 1$. The case $r > n$ treated just below correctly uses $k \geqslant n-1 = p$.
- **Correction / repair:** Replace "For $k \geqslant p-1$" by "For $k \geqslant p$" (i.e. $k \geqslant m = r-1$).

CVIII-M36. Corollary 10.6: the hypothesis $f(0) = 0$ is missing

- **Type:** missing hypothesis.
- **Precise location:** printed p. 396, statement of Corollary 10.6.
- **Printed text:** (10.6) Corollary. Let $f \in \mathcal{O}_n$ and $\mathcal{I}_f = (z_1\partial f/\partial z_1, \ldots, z_n\partial f/\partial z_n)$. Then $f \in \overline{\mathcal{I}}_f$, and for every integer $k \geqslant 0$, $f^{k+n-1} \in \mathcal{I}_f^k$.
- **Issue:** Without $f(0) = 0$ both conclusions are false. All generators $z_j\,\partial f/\partial z_j$ lie in the maximal ideal $\mathfrak{m}_n$, hence $\overline{\mathcal{I}}_f \subset \mathfrak{m}_n$ and $\mathcal{I}_f^k \subset \mathfrak{m}_n$ for $k \geqslant 1$; for $f = 1 + z_1$ one has $\mathcal{I}_f = (z_1)$ and $\overline{\mathcal{I}}_f = (z_1)$, so $f \notin \overline{\mathcal{I}}_f$ and $f^{k+n-1} \notin \mathcal{I}_f^k$ for $k \geqslant 1$. The proof also requires it: it appeals to Lemma 10.7, where $f, g_1, \ldots, g_r$ are assumed to vanish at 0, and the step "the vanishing order of $f \circ \gamma(t)$ at $t = 0$ is the same as that of $t\,d(f \circ \gamma)/dt$" fails when $f(\gamma(0)) \neq 0$.
- **Correction / repair:** Add the hypothesis $f(0) = 0$: "Let $f \in \mathcal{O}_n$ with $f(0) = 0$ (i.e. $f \in \mathfrak{m}_n$) ...".

CVIII-M37. Proof of Th. 11.12: "Th. VI-14.16" should be "Th. VI-10.16"

- **Type:** cross-reference error.
- **Precise location:** printed p. 402, second sentence of the proof of the Uniformization theorem 11.12.
- **Printed text:** If X is compact, then X is a complex curve of genus 0, so $X \simeq \mathbb{P}^1$ by Th. VI-14.16.
- **Issue:** Chapter VI has no §14 (it ends with §12, "Effect of a Modification on Hodge Decomposition", p. 328), so VI-14.16 does not exist. The statement used is Th. VI-10.16 (p. 320), in §VI-10 "Complex Curves": $g = 0 \iff X$ has a meromorphic function with a single simple pole $\iff X$ is biholomorphic to $\mathbb{P}^1$.
- **Correction / repair:** Replace "Th. VI-14.16" by "Th. VI-10.16".

CVIII-M38. Proof of Th. 11.12: $\xi^\star$ belongs to $T_a^\star X$, not $T_a X$

- **Type:** notation error.
- **Precise location:** printed p. 402, end of the proof of the uniformization theorem.
- **Printed text:** Fix a point $a \in \Omega_0$ and a non zero linear form $\xi^\star \in T_a X$.
- **Issue:** A linear form on $T_a X$ is an element of the cotangent space $T_a^\star X$, not of $T_a X$. This is confirmed by the next sentence, where $\xi^\star$ is required to equal $d\Phi_\nu(a)$, a $\mathbb{C}$-linear form on $T_a X$.
- **Correction / repair:** Replace $\xi^\star \in T_a X$ by $\xi^\star \in T_a^\star X$.

Typographical and editorial corrections

- **CVIII-T01.** printed p. 363, § 1, paragraph beginning "Assume now that T is closed and densely defined", the sentence constructing $T^\star y$. *Printed:* Since $\operatorname{Dom} T$ is dense, there exists for every y in $\operatorname{Dom} T^\star$ a unique element $T^\star y \in \mathcal{H}_1$ such that $\langle Tx, y\rangle_2 = \langle x, T^\star y\rangle_1$ for all $x \in \operatorname{Dom} T^\star$. *Correction:* Replace "for all $x \in \operatorname{Dom} T^\star$" by "for all $x \in \operatorname{Dom} T$".
- **CVIII-T02.** printed p. 363, chapter introduction, sentence "We also derive the Ohsawa-Takegoshi extension theorem . . . ". *Printed:* Skoda's L^2 estimates for surjective bundle morphisms [Skoda 1972a, 1978], [Demailly 1982c]. *Correction:* Replace "[Skoda 1972a, 1978]" by "[Skoda 1972b, 1978]".
- **CVIII-T03.** printed p. 364, heading of Theorem 1.1. *Printed:* (1.1) Theorem [Von Neumann 1929]). *Issue:* Unbalanced delimiters: the closing parenthesis after "]" has no opening counterpart. Elsewhere the book writes headings such as "(3.5) Theorem ([Grauert-Riemenschneider 1970])." *Correction:* Replace "[Von Neumann 1929])" by "([Von Neumann 1929])".
- **CVIII-T04.** printed p. 365, proof of Theorem 1.2, sentence following the Cauchy-Schwarz estimate. *Printed:* This shows that the linear form $T_X^\star \ni x \longmapsto \langle x, v\rangle_2$ is continuous on $\operatorname{Im} T^\star \subset \mathcal{H}_1$ with norm $\leqslant C^{-1/2}\|v\|_2$. *Correction:* Replace "the linear form $T_X^\star \ni x \longmapsto \langle x, v\rangle_2$" by "the linear form $\operatorname{Im} T^\star \ni T^\star x \longmapsto \langle x, v\rangle_2$".
- **CVIII-T05.** printed p. 367, § 3, paragraph defining the extension $\widetilde{P}$. *Printed:* It follows that $\widetilde{P}$ is densely defined, since $\operatorname{Dom} P$ contains the set $\mathcal{D}(M, F_1)$ of compactly supported sections of $\mathcal{C}^\infty(M, F_1)$, which is dense in $L^2(M, F_1)$. *Issue:* The assertion to be justified is that the non bounded operator $\widetilde{P}$ on $L^2(M, F_1)$ is densely defined, so it is $\operatorname{Dom}\widetilde{P}$ that must contain $\mathcal{D}(M, F_1)$. The operator P itself is defined on all of $\mathcal{C}^\infty(M, F_1)$ and has no domain in the Hilbert space sense. *Correction:* Replace "$\operatorname{Dom} P$ contains" by "$\operatorname{Dom}\widetilde{P}$ contains".
- **CVIII-T06.** printed p. 369, heading of the last part of the proof of Theorem 3.2; printed p. 381, heading of the proof of Theorem 7.1. *Printed:* Proof (end).. b) is equivalent to the fact that . . . / Proof of Theorem 7.1.. When we replace σ by $(1 + \eta)\sigma$ . . . . *Issue:* Two consecutive full stops follow the italicised proof headings, the period produced by the heading macro being added to one typed by hand. *Correction:* Print "Proof (end)." (p. 369) and "Proof of Theorem 7.1." (p. 381), with a single full stop.

- **CVIII-T07.** printed p. 372, Remark 4.6, sentence preceding formula (4.7). *Printed:* We have $f \in \overline{\operatorname{Im}\delta''}$, thus f satifies the additional equation. *Issue:* Misspelling. *Correction:* Replace "satifies" by "satisfies".

- **CVIII-T08.** printed p. 373, paragraph preceding Theorem 5.5. *Printed:* It follows from the above considerations that almost all vanishing theorems for positive vector bundles over compact manifolds are also valid on weakly pseudoconvex manifolds. Let us mention here the analogues of some results proved in Chapter 7. *Issue:* Chapters are numbered with Roman numerals throughout (table of contents, running heads, cross-references such as "Th. VII-7.3", "Prop. VI-5.8"); the vanishing theorems alluded to are those of Chapter VII. *Correction:* Replace "Chapter 7" by "Chapter VII".

- **CVIII-T09.** printed p. 374, proof of Lemma 5.7, second sentence. *Printed:* Then χ satisties the conclusion of the lemma after addition of a constant. *Issue:* Misspelling. *Correction:* Replace "satisties" by "satisfies".

- **CVIII-T10.** printed p. 374, paragraph following the proof of Lemma 5.7. *Printed:* As a last application, we generalize the Girbau vanishing theorem in the case of weakly pseudoconvex manifolds. This result is due to [Abdelkader 1980] and [Ohsawa 1981]. We present here a simplified proof which appeared in [Demailly 1985]. *Correction:* Replace "[Demailly 1985]" by "[Demailly 1985b]".

- **CVIII-T11.** printed pp. 375 and 379, running heads. *Printed:* p. 375: "§ 6. Hörmander's Estimates for non Complete Kähler Metrics"; p. 379: "§ 7. Extension of Holomorphic Functions from Subvarieties". *Correction:* The running head of p. 375 should read "§ 5. Estimates on Weakly Pseudoconvex Manifolds" and that of p. 379 "§ 6. Hörmander's Estimates for non Complete Kähler Metrics".

- **CVIII-T12.** printed p. 377, proof of Lemma 6.3, display defining the operator S_γ. *Printed:* $S_\gamma u = \sum_K (\gamma_1 \ldots \gamma_n \gamma_K)^{-1} u_{K,\lambda}\, dz_1 \wedge \ldots \wedge dz_n \wedge d\overline{z}_K \otimes e_\lambda$. *Correction:* Replace $\sum_K$ by $\sum_{K,\lambda}$ in the definition of S_γ.

- **CVIII-T13.** printed p. 378, paragraph preceding Definition 6.6; p. 379, third line; p. 380, paragraph following Theorem 7.1. *Printed:* Let us look more carefully to the case $p = 0$. / The following result is especially convenient because it requires only weak plurisubharmonicity and avoids to compute the curvature eigenvalues. / This requires to know whether $X \smallsetminus Y$ has a complete Kähler metric. *Issue:* Three French constructions carried over into English: "look … to" for "look … at", and "avoid/require to" followed by an infinitive instead of a gerund. *Correction:* Read "Let us look more carefully at the case $p = 0$" (p. 378); "avoids computing the curvature eigenvalues" (p. 379); "This requires knowing whether $X \smallsetminus Y$ has a complete Kähler metric" (p. 380).

- **CVIII-T14.** printed p. 381, last line of the proof of Lemma 7.2. *Printed:* $\widetilde{\omega}$ is complete on $X_c \smallsetminus \Omega$ because $\log(c-\psi)^{-1}$ tends to $+\infty$ on ∂X_c. *Correction:* Replace "$X_c \smallsetminus \Omega$" by "$X_c \smallsetminus Y$".

- **CVIII-T15.** printed p. 382, proof of Theorem 7.1, sentence following the estimate of $\langle A_1^{-1} g, g\rangle$. *Printed:* $\langle A_1^{-1} g, g\rangle \leqslant \frac{(p+1)^2}{4\varepsilon} |\sigma|^{2p} (1+|\sigma|^2)^2 |f|^2 \leqslant \frac{(p+1)^2}{\varepsilon} |f|^2 e^{\varphi}$, where the last equality results from the fact that $(1+|\sigma|^2)^2 \leqslant 4$ on the support of g. *Correction:* Replace "the last equality" by "the last inequality".

- **CVIII-T16.** printed p. 384, comment following Theorem 7.6, second sentence. *Printed:* the improved exponent $n + \varepsilon$ is due to [Skoda 1975]. *Issue:* The References contain no entry Skoda [1975]. The paper meant, "Estimations L^2 pour l'opérateur $\overline{\partial}$ et applications arithmétiques", Sém. P. Lelong 1975/76, Lecture Notes in Math. 538, is listed on p. 454 as Skoda, H. [1976]. *Correction:* Replace "[Skoda 1975]" by "[Skoda 1976]".

- **CVIII-T17.** printed p. 386, paragraph introducing Definition 8.3, and paragraph following Theorem 8.6. *Printed:* Following [Waldschmidt 1975], we introduce the following definition. ... Such a result was first obtained by [Waldschmidt 1975, 1979] with the lower bound $\omega_{t_1}(S)/(t_1 + n - 1)$. *Correction:* Replace "[Waldschmidt 1975]" by "[Waldschmidt 1976]" and "[Waldschmidt 1975, 1979]" by "[Waldschmidt 1976, 1978]".

- **CVIII-T18.** printed p. 387, first paragraph, sentence on Chudnovsky's conjecture for $n = 2$. *Printed:* this case was first verified independently by [Chudnovsky 1979] and [Demailly 1982]. *Issue:* The References list

Demailly, J.P. [1982a], [1982b] and [1982c], but no [Demailly 1982]. The relevant paper is [Demailly 1982a] (Formules de Jensen en plusieurs variables et applications arithmétiques, Bull. Soc. Math. France 110), which is the key used in the next sentence. *Correction:* Replace “[Demailly 1982]” by “[Demailly 1982a]”.

- **CVIII-T19.** printed p. 387, first line. *Printed:* above improved inequalities were then found by (Esnault-Viehweg 1983), who used rather deep tools of algebraic geometry. *Issue:* This is the unique occurrence in the book of a bibliography key set between round parentheses; the same paper is cited as [Esnault-Viehweg 1983] in Remark III-10.8, and [Azhari 1990], [Chudnovsky 1979] are bracketed in the following lines. *Correction:* Replace “(Esnault-Viehweg 1983)” by “[Esnault-Viehweg 1983]”.

- **CVIII-T20.** printed p. 389, proof of Theorem 9.3, displayed computation of $D''_{E\otimes L}h$. *Printed:*

$$D''_{E\otimes L}h = -j(\beta^\star \wedge f) + j\, D''_{S\otimes L} = j(D''_{S\otimes L} - \beta^\star \wedge f)$$

. *Issue:* As printed, an operator is added to a form. With $h = g^\star f + ju$, $D''g^\star = -j \circ \beta^\star$ (V-14.3 d) and $D''_{Q\otimes L}f = 0$, one gets $D''_{E\otimes L}h = -j(\beta^\star \wedge f) + j\, D''_{S\otimes L}u$, which is what makes (9.4) the equation to be solved. *Correction:* Read $D''_{E\otimes L}h = -j(\beta^\star \wedge f) + j\, D''_{S\otimes L}u = j(D''_{S\otimes L}u - \beta^\star \wedge f)$.

- **CVIII-T21.** printed p. 390, first sentence. *Printed:* Th. 4.5 yields a solution u of (9.4) in $L^2_{n,q}(X, S \otimes L)$ such that $\|u\|^2 \leqslant (m/\varepsilon)\,\|f\|^2$. *Issue:* On p. 389 the unknown is introduced as $u \in L^2_{n,k}(X, S \otimes L)$, and solving $D''_{S\otimes L}u = \beta^\star \wedge f$ for a right-hand side of type $(n, k+1)$ produces a solution of type (n, k). In addition $q = \operatorname{rk} Q$ in Th. 9.3, so $L^2_{n,q}$ clashes with the notation of the statement. *Correction:* Replace $L^2_{n,q}(X, S \otimes L)$ by $L^2_{n,k}(X, S \otimes L)$.

- **CVIII-T22.** printed p. 396, proof of Corollary 10.5 b), first sentence. *Printed:* Observe that $v_1, \ldots, v_N$ satisfy simultaneously some integrability condition $\int_\Omega |v_j|^{-2(p+\varepsilon)} < +\infty$, thus $\widehat{\mathcal{I}}^{(p)} = \widehat{\mathcal{I}}^{(p+\eta)}$ for $\eta \in [0, \varepsilon[$. *Correction:* Read $\int_\Omega |v_j|^2\, |g|^{-2(p+\varepsilon)}\, dV < +\infty$.

- **CVIII-T23.** printed p. 398, proof of Proposition 11.7, displayed formula for du on a 1-form. *Printed:*

$$du(\xi, \eta) = \xi.u(\eta) - \eta.du(\xi) - u([\xi, \eta])$$

. *Correction:* Replace $\eta.du(\xi)$ by $\eta.u(\xi)$.

- **CVIII-T24.** printed p. 398, first sentence of the proof of Proposition 11.7. *Printed:* Proof. Since all operators occuring in the formula are derivations, it is sufficient to check the formula for forms of degree 0 or 1. *Issue:* Misspelling of “occurring”; this is the only occurrence of the misspelling in the book. *Correction:* Replace “occuring” by “occurring”.

- **CVIII-T25.** printed p. 401, run-in heading of the proof of Theorem 11.8. *Printed:* Proof of theorem 11.8.. With the notations of the previous lemmas, consider the pseudoconvex open set. *Issue:* Every other proof heading of the book capitalizes the type of the statement (“Proof of Theorem 8.6”, p. 387; “Proof of Lemma 9.5”, p. 390); here “theorem” is lower case. *Correction:* Replace “Proof of theorem 11.8” by “Proof of Theorem 11.8”.

- **CVIII-T26.** printed p. 401, last sentence of the proof of Theorem 11.8. *Printed:* Then $\widetilde{z}_j$ is J-holomorphic and $d\widetilde{z}_j(0) = dz_j(0)$, so $(z_1, \ldots, z_n)$ is a J-holomorphic coordinate system at $z = 0$. *Correction:* Replace “$(z_1, \ldots, z_n)$ is a J-holomorphic coordinate system” by “$(\widetilde{z}_1, \ldots, \widetilde{z}_n)$ is a J-holomorphic coordinate system”.

- **CVIII-T27.** printed p. 402, run-in heading of the last proof of Chapter VIII, after Lemma 11.13. *Printed:* Proof End of the proof of the uniformization theorem.. Extend the almost complex structure of $\overline{\Omega}_\nu$ in an arbitrary way to Y_ν,. *Issue:* The heading prints both the automatic keyword “Proof” and the custom title supplied as its argument, and so reads as a garbled sentence. The same glitch occurs once more in the book (“Proof Proof of formula 6.8 a).”, p. 308). *Correction:* Print the heading as “End of the proof of the uniformization theorem.”.

Chapter IX. Finiteness Theorems for q-Convex Spaces and Stein Spaces

Range checked: printed pp. 403–448.

Mathematical corrections, cross-references and proof clarifications

CIX-M01. Proof of Prop. 1.11 c): the differential δ is written d

- **Type:** notation error.
- **Precise location:** printed pp. 408-409, proof of Proposition 1.11, part c).
- **Printed text:** so we can write $x^\nu = dy_\nu$, $y_\nu \in E_\nu^{q-1}$ [...] we still have $x^{\nu+1} = dy_{\nu+1}$ [...] such that $x = dy$.
- **Issue:** The complexes of (1.11) are $(E_\nu^\bullet, \delta)$ and their differential is written δ in the statement and in parts a), b), d) of the proof ($x_{\nu+1}^\nu = x_\nu + \delta y_\nu$, $x_{\nu+1}^\nu + \delta y_\nu$, $x'_\nu = x_\nu + \delta w_\nu$). In part c) the same operator is written d, a letter which in (1.9) denotes the differential of a different complex $(E^\bullet, d)$ and which also occurs in this very proof as d_ν for the distances defining the topologies.
- **Correction / repair:** In the proof of 1.11 c) replace $x^\nu = dy_\nu$, $x^{\nu+1} = dy_{\nu+1}$ and $x = dy$ by $x^\nu = \delta y_\nu$, $x^{\nu+1} = \delta y_{\nu+1}$ and $x = \delta y$.

CIX-M02. Def. 2.7: a compact scheme is strongly 0-convex, not 0-complete

- **Type:** mathematical error.
- **Precise location:** printed p. 411, last sentence of Definition 2.7; used on p. 425 ('The compact case $q = 0$ of 4.10 a)') and in tension with Corollary 4.11.
- **Printed text:** We say that X is strongly q-complete if ψ can be chosen so that $K = \emptyset$. By convention, a compact scheme X is said to be strongly 0-complete, with exceptional compact set $K = X$.
- **Issue:** The convention contradicts the definition it follows: 'strongly q-complete' has just been defined by the requirement $K = \emptyset$, so nothing can be '0-complete with exceptional compact set $K = X$'. What is needed later is 0-CONVEXITY: for $K = X$ the condition on ψ outside K is vacuous, so a compact scheme is strongly q-convex in the sense of (2.7) for every q, and p. 425 reads 'The compact case $q = 0$ of 4.10 a) is precisely the Cartan-Serre finiteness theorem', where Th. 4.10 assumes X strongly q-convex. With the printed convention, Corollary 4.11 ('If X is strongly q-complete, then $H^k(X, \mathscr{S}) = 0$ for $k \geqslant q$'), whose statement carries no restriction on q, would give $H^0(X, \mathscr{S}) = 0$ for every compact scheme, e.g. $H^0(\mathbb{P}^1, \mathcal{O}) = \mathbb{C} \neq 0$.
- **Correction / repair:** Replace 'a compact scheme X is said to be strongly 0-complete' by 'a compact scheme X is said to be strongly 0-convex'. (Corollary 4.11 is meant for $q \geqslant 1$, as the sentence introducing it states; adding '$q \geqslant 1$' to 4.11 would make this explicit.)

CIX-M03. Lemma 2.12: 'I-3.37' does not exist (regularized max is Lemma I-5.18)

- **Type:** cross-reference error.
- **Precise location:** printed p. 413, proof of Lemma 2.12, line following the definition of $v(z) = M_{(1,\ldots,1)}(\ldots)$.
- **Printed text:** where M_η is the regularized max function defined in I-3.37.
- **Issue:** Chapter I has no item (3.37): §3 ends with (3.30) on p. 29. The regularized max function $M_\eta(t_1, \ldots, t_p) = \int \max\{t_1 + h_1, \ldots, t_p + h_p\} \prod \theta(h_j/\eta_j)\, dh$ is introduced in Lemma I-(5.18), p. 43 (and is quoted as '5.18' on p. 51).
- **Correction / repair:** Replace 'defined in I-3.37' by 'defined in Lemma I-5.18'.

CIX-M04. Proof of Lemma 2.12: undefined centre z_λ in the barrier term

- **Type:** notation error.
- **Precise location:** printed p. 413, proof of Lemma 2.12, display defining v_λ and the sentence three lines below it.
- **Printed text:** patches A_λ isomorphic to analytic sets in balls $B(0, r_\lambda) \subset \mathbb{C}^{N_\lambda}$ [...] $v_\lambda(z) = \log |g_\lambda(z)|^2 - \dfrac{1}{r_\lambda^2 - |z - z_\lambda|^2}$.
- **Issue:** The balls are centred at the origin, so the barrier term should be $1/(r_\lambda^2 - |z|^2)$; the point z_λ, which reappears in 'since $1/(r_\lambda^2 - |z - z_\lambda|^2)$ tends to $+\infty$ on ∂A_λ', is never defined.
- **Correction / repair:** Either write the patches as analytic sets in balls $B(z_\lambda, r_\lambda) \subset \mathbb{C}^{N_\lambda}$, or replace $|z-z_\lambda|$ by $|z|$ in both places.

CIX-M05. Prop. 2.16: the clause $U = Y \cap V$ is impossible and must be deleted

- **Type:** mathematical error.
- **Precise location:** printed p. 414, statement of Proposition 2.16.
- **Printed text:** there exist a neighborhood V of Y in X and a strongly q-convex exhaustion $\widetilde{\psi}$ on V such that $U = Y \cap V$ and $L \subset Y \cap V_b \Subset U$ for some sublevel set V_b of $\widetilde{\psi}$.
- **Issue:** V is a neighborhood of Y, so $Y \cap V = Y$ and the clause forces $U = Y$, whereas U is only assumed to be a q-Runge complete open subset of Y. The proof does not prove it either: V is the neighborhood of Y produced in the proof of Th. 2.13, and the only conclusion established is $L \subset Y \cap V_b \subset \{\psi < b\} \Subset U$. The clause is not needed in the only application, Lemma 4.9 (p. 425), where the property actually used, $A \cap V = U$, holds because V is taken inside an open set $V_0 \subset \Omega$ with $A \cap V_0 = U$.
- **Correction / repair:** Delete '$U = Y \cap V$ and' from the statement of (2.16); the conclusion is '... a strongly q-convex exhaustion $\widetilde{\psi}$ on V such that $L \subset Y \cap V_b \Subset U$ for some sublevel set V_b of $\widetilde{\psi}$'.

CIX-M06. Proof of Prop. 2.16: the sublevel set is V_b, not $V_{b-\delta}$

- **Type:** mathematical error.
- **Precise location:** printed p. 414, last display of the proof of Proposition 2.16.
- **Printed text:** we have $\psi \leqslant \widetilde{\psi}_{|Y} = \varphi_{|Y} < \psi + \delta$, thus $L \subset Y \cap V_{b-\delta} \subset \{\psi < b\} \Subset U$.
- **Issue:** On L one only knows $\psi < b - \delta$, hence $\widetilde{\psi}_{|Y} < \psi + \delta < b$; this gives $L \subset Y \cap V_b$, not $L \subset Y \cap V_{b-\delta}$, since $\widetilde{\psi}$ may be arbitrarily close to $\psi + \delta$ on L. The second inclusion is unaffected, because $\psi \leqslant \widetilde{\psi}$ on Y gives $Y \cap V_b \subset \{\psi < b\}$.
- **Correction / repair:** Replace $L \subset Y \cap V_{b-\delta}$ by $L \subset Y \cap V_b$ (equivalently, choose δ so that $L \subset \{\psi < b - 2\delta\}$).

CIX-M07. Proof of Prop. 2.16: 'Lemma 2.11' should be 'Prop. 2.11'

- **Type:** cross-reference error.
- **Precise location:** printed p. 414, proof of Proposition 2.16, second sentence.
- **Printed text:** Then $L \subset \{\psi < b - \delta\}$ for some number $\delta > 0$ and Lemma 2.11 gives a strongly q-convex function φ on a neighborhood W_0 of Y.
- **Issue:** (2.11) is a Proposition (p. 411), not a Lemma; it is cited correctly as 'Prop. 2.11' in the proof of Th. 2.13 on p. 413.
- **Correction / repair:** Replace 'Lemma 2.11' by 'Prop. 2.11'.

CIX-M08. Proof of Lemma 3.1: 'Lemma VII-6.2' should be 'Lemma VII-5.2'

- **Type:** cross-reference error.
- **Precise location:** printed p. 415, proof of Lemma 3.1, line after the definition of $A(x) = \eta(x)\theta[(\eta(x))^{-1}A_0(x)]$.
- **Printed text:** where $\theta[\eta^{-1}A_0] \in \mathcal{C}^\infty(\operatorname{End} TM)$ is defined as in Lemma VII-6.2.
- **Issue:** VII-(6.2) is a displayed formula on p. 338, namely $\theta_E(u,u) = \sum_{j,k,\lambda,\mu} c_{jk\lambda\mu}(x)u_{j\lambda}\overline{u_{k\mu}}$, and has nothing to do with functional calculus. The statement used here is Lemma VII-(5.2), p. 337: for $\psi \in \mathcal{C}^\infty(\mathbb{R},\mathbb{R})$ and A hermitian, $\psi[A]$ is defined by $\psi(\lambda_j)$ on the eigenvectors of A, and $A \mapsto \psi[A]$ is $\mathcal{C}^\infty$ on $\mathrm{Herm}(\mathbb{C}^n)$.
- **Correction / repair:** Replace 'Lemma VII-6.2' by 'Lemma VII-5.2'.

CIX-M09. Proof of Lemma 3.3: wrong powers of $(x_1 + r)$ in $\Delta_\omega v/v$

- **Type:** mathematical error.
- **Precise location:** printed p. 416, proof of Lemma 3.3, the display computing $\Delta_\omega v(x)/v(x)$ (first two lines) and the estimates that follow it.
- **Printed text:** $\dfrac{\Delta_\omega v(x)}{v(x)} = \widetilde{\omega}^{11}(x)\big(4(x_1+r)^{-5} - 2(x_1+r)^{-3}\big) + \sum_{j>1}\widetilde{\omega}^{1j}(x)\big(1+2(x_1+r)^{-2}\big)(-2x_j)(r^2 - |x'|^2)^{-2} + \dots$.
- **Issue:** Put $u = x_1 + r$, $\chi(u) = u\,e^{-1/u^2}$, $v = \chi(x_1)\exp\big(1/(|x'|^2 - r^2)\big)$. Then $\log\chi = \log u - u^{-2}$, so $\chi'/\chi = u^{-1} + 2u^{-3}$ and $\chi''/\chi = (\chi'/\chi)' + (\chi'/\chi)^2 = (-u^{-2} - 6u^{-4}) + (u^{-2} + 4u^{-4} + 4u^{-6}) = 4u^{-6} - 2u^{-4}$. Hence the coefficient of $\widetilde{\omega}^{11}$ is $\chi''/\chi = 4u^{-6} - 2u^{-4}$, not $4u^{-5} - 2u^{-3}$, and the mixed terms are $2\sum_{j>1}\widetilde{\omega}^{1j}(\chi'/\chi)(-2x_j)(r^2 - |x'|^2)^{-2} = 2\sum_{j>1}\widetilde{\omega}^{1j}u^{-1}(1+2u^{-2})(-2x_j)(r^2-|x'|^2)^{-2}$, i.e. the factor u^{-1} and the factor 2 (the pairs $(1,j)$ and $(j,1)$ both occur in $\sum_{j,k}\widetilde{\omega}^{jk}\partial_j\partial_k$) are missing. The printed expressions are exactly χ'' and χ' divided by e^{-1/u^2} instead of by $\chi = u\,e^{-1/u^2}$. The third line, which does not involve χ, is correct as printed, which confirms the slip. All the subsequent estimates inherit the shift ($2c(x_1+r)^{-5}$, $C_1(x_1+r)^{-2}$, $C_3(x_1+r)^{-4}$, $C_5 r^{-4} < c(x_1+r)^{-5}$).
- **Correction / repair:** Replace the first line of the display by $\widetilde{\omega}^{11}(x)\big(4(x_1+r)^{-6} - 2(x_1+r)^{-4}\big)$ and the second by $2\sum_{j>1}\widetilde{\omega}^{1j}(x)\,(x_1+r)^{-1}\big(1+2(x_1+r)^{-2}\big)(-2x_j)(r^2-|x'|^2)^{-2}$, and shift the following estimates accordingly, namely $\Delta_\omega v/v \geqslant 3c(x_1+r)^{-6} - C_1(x_1+r)^{-3}|x'|(r^2-|x'|^2)^{-2} + (2c|x'|^2 - C_2r^4)(r^2-|x'|^2)^{-4}$. Choosing the holomorphic coordinates at a_0 so that $\widetilde{\omega}^{jk}(a_0) = \delta_{jk}$ gives $\widetilde{\omega}^{1j}(x) = O(r)$ on $\overline{U}$ for $j > 1$, hence $C_1 = O(r)$, and the mixed term is absorbed by $C_1(x_1+r)^{-3}|x'|(r^2-|x'|^2)^{-2} \leqslant \frac{C_1^2}{4c}(x_1+r)^{-6} + c|x'|^2(r^2-|x'|^2)^{-4}$; the proof then ends as printed with $(x_1+r)^{-6}$ in place of $(x_1+r)^{-5}$.

CIX-M10. Proof of Lemma 3.3: the cylinders should be indexed $0 \leqslant j \leqslant N$

- **Type:** notation error.
- **Precise location:** printed p. 416, proof of Lemma 3.3, connected case, sentence 'Then we can find a finite sequence of cylinders $(U_j, W_j)\dots$'.
- **Printed text:** a finite sequence of cylinders (U_j, W_j) of the type described above, $1 \leqslant j \leqslant N$, whose axes are segments contained in Γ, such that $U_j \cup W_j \subset U \cup W$, $\overline{W}_j \subset U_{j+1}$ and $z_0 \in U_0$, $a \in W_N \subset W \smallsetminus \overline{U}$.
- **Issue:** The index range is inconsistent with the rest of the proof: U_0 occurs in the same sentence, and v_0, U_0 occur in the two following sentences ('$v_0 + C_1v_1 + \dots + C_jv_j$ is strongly ω-subharmonic on $U_0 \cup \ldots \cup U_j$', '$w_{z_0} = v_0 + C_1v_1 + \ldots + C_Nv_N$').
- **Correction / repair:** Replace '$1 \leqslant j \leqslant N$' by '$0 \leqslant j \leqslant N$'.

CIX-M11. Proof of Th. 3.5: 'Lemma 7' should be 'Lemma 3.3'

- **Type:** cross-reference error.
- **Precise location:** printed p. 417, proof of Theorem 3.5, sentence beginning 'Lemma 7 implies'.
- **Printed text:** Lemma 7 implies that there is a nonnegative function $v_\nu \in \mathcal{C}^\infty(M,\mathbb{R})$ with support in $U_\nu \cup U_{\nu+1}$, which is strongly ω-subharmonic on U_ν.
- **Issue:** There is no item 'Lemma 7'; statements of Chapter IX are numbered §.n. The result invoked – existence of a nonnegative $v \in \mathcal{C}^\infty(M,\mathbb{R})$ supported in $\overline{U} \cup \overline{W}$, strongly ω-subharmonic and > 0 on U, under the hypothesis just verified ($U_{\nu+1,t(s)} \cap U_{\nu,s} \neq \emptyset$ and $U_{\nu+1,t(s)} \smallsetminus \overline{U}_{\nu,s} \neq \emptyset$) – is Lemma 3.3.
- **Correction / repair:** Replace 'Lemma 7' by 'Lemma 3.3'.

CIX-M12. Th. 3.6 c): the hypothesis should be 'finitely many compact components of dimension n'

- **Type:** mathematical error.
- **Precise location:** printed p. 417, Theorem 3.6 c), compared with Corollary 4.15 c), p. 428.
- **Printed text:** c) If X has only finitely many irreducible components of dimension n, then X is strongly n-convex. [p. 428] c) If X has only finitely many n-dimensional compact irreducible components, then $H^n(X,\mathscr{S})$ is finite dimensional.
- **Issue:** Corollary 4.15 c) is obtained by combining Th. 4.10 a) with Th. 3.6 c), but its hypothesis is strictly weaker than that of 3.6 c): it requires only finitely many COMPACT n-dimensional irreducible components. As printed, 4.15 c) does not follow from 3.6 c). The proof of 3.6 c) in fact yields the stronger statement: with $Y = X_{\mathrm{sing}} \cup \{$irreducible components that are non compact or of dimension $< n\}$, Y has no compact irreducible component of maximal dimension, hence is strongly n-complete by b); Th. 2.13 gives a strongly n-complete neighborhood $V \supset Y$, and $K = X \smallsetminus V \subset X \smallsetminus Y$ is contained in the union of the compact n-dimensional components, hence compact as soon as there are finitely many of them. (The printed hypothesis is also not optimal: an infinite disjoint union of copies of $\mathbb{C}^n$ is strongly n-complete.)
- **Correction / repair:** In Th. 3.6 c) replace 'only finitely many irreducible components of dimension n' by 'only finitely many compact irreducible components of dimension n'; the proof is unchanged and Cor. 4.15 c) then follows.

CIX-M13. Proof of Th. 3.5: $U_0 \cup \ldots \cup U_\nu$ should be $U_1 \cup \ldots \cup U_\nu$

- **Type:** notation error.
- **Precise location:** printed p. 417, proof of Theorem 3.5, line following the definition of ψ_ν.
- **Printed text:** $\psi_\nu = \varphi + C_1 v_1 + \cdots + C_\nu v_\nu$ is strongly ω-subharmonic on $\overline{\Omega}_\nu \subset U_0 \cup \ldots \cup U_\nu$.
- **Issue:** U_0 is not defined: the sets are introduced as $U_1 = \Omega_2$ and $U_\nu = \Omega_{\nu+1} \smallsetminus \overline{\Omega}_{\nu-2}$ for $\nu \geqslant 2$. One has $U_1 \cup \ldots \cup U_\nu = \Omega_{\nu+1} \supset \overline{\Omega}_\nu$, so the union must start at U_1, consistently with $\psi_\nu = \varphi + C_1 v_1 + \cdots + C_\nu v_\nu$.
- **Correction / repair:** Replace '$U_0 \cup \ldots \cup U_\nu$' by '$U_1 \cup \ldots \cup U_\nu$'.

CIX-M14. Proof of Th. 3.6 c): '$\dim Y \leqslant n-1$' is false; Y is n-complete by b)

- **Type:** mathematical error.
- **Precise location:** printed p. 418, 'Proof of Theorem 3.6 c) (end)', first two sentences.
- **Printed text:** Let $Y \subset X$ be the union of X_{sing} with all irreducible components of X that are non compact or of dimension $< n$. Then $\dim Y \leqslant n-1$, so Y is n-convex and Th. 2.13 implies that there is an exhaustion function $\psi \in \mathcal{C}^\infty(X,\mathbb{R})$ such that ψ is strongly n-convex on a neighborhood V of Y.

- **Issue:** Two defects. (i) Y contains by construction every non compact irreducible component of dimension n, so $\dim Y = n$ whenever such a component exists (e.g. $X = \mathbb{C}^n \sqcup \mathbb{P}^n$, $Y = \mathbb{C}^n$); '$\dim Y \leqslant n-1$' is false. (ii) Th. 2.13 requires the analytic subset to be strongly n-COMPLETE, not merely n-convex. The correct argument uses part b): every n-dimensional irreducible component of Y is non compact, so Y has no compact irreducible component of maximal dimension and is therefore strongly n-complete by 3.6 b) (by 3.6 a) if $\dim Y < n$).

- **Correction / repair:** Replace 'Then $\dim Y \leqslant n-1$, so Y is n-convex and Th. 2.13 implies' by 'Then Y has no compact irreducible component of dimension n, so Y is strongly n-complete by b), and Th. 2.13 implies'.

CIX-M15. Proof of Prop. 4.1: the weight of E_χ is $\exp(-\chi\circ\psi)$

- **Type:** mathematical error.

- **Precise location:** printed p. 420, proof of Proposition 4.1, sentence defining the bundle E_χ.

- **Printed text:** Denote by E_χ the bundle E endowed with the hermitian metric obtained by multiplication of a fixed metric of E by the weight $\exp(-\rho\circ\psi)$ where $\chi \in \mathcal{C}^\infty(\mathbb{R},\mathbb{R})$ is a convex increasing function.

- **Issue:** The weight must be $\exp(-\chi\circ\psi)$: the very next display reads $ic(E_\chi) = ic(E) + id'd''(\chi\circ\psi)\otimes \mathrm{Id}_E$ and all the subsequent L^2 estimates are written with $e^{-\chi\circ\psi}$ (with $\chi = \chi_0 + \chi_1$). Moreover $\rho\circ\psi$ is meaningless here: $\rho \in \mathcal{C}^\infty(M,\mathbb{R})$ is the function used to make $\widetilde{\omega} = e^\rho\omega$ complete, and $\psi : M \to \mathbb{R}$.

- **Correction / repair:** Replace '$\exp(-\rho\circ\psi)$' by '$\exp(-\chi\circ\psi)$'.

CIX-M16. Proof of Prop. 4.1: 'Prop. VI-8.3' should be 'Prop. VI-5.8'

- **Type:** cross-reference error.

- **Precise location:** printed p. 420, proof of Proposition 4.1, line preceding the display of $[ic(E_\chi),\Lambda] + T_{\widetilde{\omega}}$.

- **Printed text:** The eigenvalues of $id'd''\psi$ with respect to $\widetilde{\omega}$ are $e^{-\rho}\gamma_j$, so Lemma VII-7.2 and Prop. VI-8.3 yield.

- **Issue:** VI-(8.3) is a displayed formula on p. 310 (the canonical morphism $H^{p,q}_{BC}(X,\mathbb{C}) \to H^{p+q}_{DR}(X,\mathbb{C})$); it is not a Proposition and is unrelated to the commutator $[\gamma,\Lambda]$. The statement used is Prop. VI-(5.8), p. 301: $[\gamma,\Lambda]u = \sum_{J,K}\big(\sum_{j\in J}\gamma_j + \sum_{j\in K}\gamma_j - \sum_{1\leqslant j\leqslant n}\gamma_j\big)u_{J,K}\,\zeta^\star_J \wedge \overline{\zeta^\star_K}$, which for $J = \{1,\ldots,n\}$ gives the eigenvalues $\gamma_{k_1} + \cdots + \gamma_{k_k} \geqslant \gamma_1 + \cdots + \gamma_k$ on (n,k)-forms. (The same wrong reference 'Prop. VI-8.3' also occurs on pp. 334 and 341.)

- **Correction / repair:** Replace 'Prop. VI-8.3' by 'Prop. VI-5.8'.

CIX-M17. Proof of Prop. 4.1 b): Garding's inequality is VI-2.3, not VI-3.3

- **Type:** cross-reference error.

- **Precise location:** printed p. 420, last lines of the proof of Proposition 4.1 b).

- **Printed text:** Garding's inequality VI-3.3 applied to the elliptic operator Δ''_{χ_0} shows that f_ν converges to 0 with all derivatives on L.

- **Issue:** VI-(3.3) is the duality formula $\Lambda^p T^\star_M \times \Lambda^{m-p}T^\star_M \to \mathbb{R}$, $(u,v) \mapsto u\wedge v/dV = \sum \varepsilon(I,\complement I)u_I v_{\complement I}$ (p. 291). Garding's inequality is VI-(2.3), p. 289: $\|u\|_{k+d} \leqslant C_k(\|\widetilde{P}u\|_k + \|u\|_0)$.

- **Correction / repair:** Replace 'Garding's inequality VI-3.3' by 'Garding's inequality VI-2.3'.

CIX-M18. Proof of Prop. 4.1 b): the weight is $\chi = \chi_0 + \nu\theta$

- **Type:** notation error.
- **Precise location:** printed p. 420, proof of Proposition 4.1 b), sentence 'We solve the equation $D''f = g$ for $g = D''(\eta h)$'.
- **Printed text:** We solve the equation $D''f = g$ for $g = D''(\eta h)$ with the weight $\chi = \chi_0 + \nu\theta \circ \psi$ and let ν tend to infinity.
- **Issue:** χ is a function of one real variable, the weight being $e^{-\chi\circ\psi}$ (cf. 'where $\chi = \chi_0 + \chi_1$' ten lines above); $\chi = \chi_0 + \nu\theta \circ \psi$ would give $\chi \circ \psi = \chi_0 \circ \psi + \nu\,\theta \circ \psi \circ \psi$. The intended function is $\chi = \chi_0 + \nu\theta$, and the next line indeed uses $\chi \circ \psi \geqslant \chi_0 \circ \psi + \nu$ on $U \smallsetminus M_b$, which follows from $\theta \geqslant 1$ on $]b, +\infty[$.
- **Correction / repair:** Replace 'with the weight $\chi = \chi_0 + \nu\theta \circ \psi$' by 'with the weight $\chi = \chi_0 + \nu\theta$'.

CIX-M19. Lemma 4.4: the hypothesis must be 'strongly q-complete'

- **Type:** mathematical error.
- **Precise location:** printed p. 421, statement and first line of the proof of Lemma 4.4.
- **Printed text:** (4.4) Lemma. Let $A \subset \Omega$ be a $\mathscr{S}$-distinguished patch of X and U a strongly q-convex open subset of A. Then $H^k(U, \mathscr{S}) = 0$ for $k \geqslant q$. – Proof. Theorem 2.13 shows that there exists a strongly q-convex open set $V \subset \Omega$ such that $U = A \cap V$.
- **Issue:** Both occurrences must read 'strongly q-complete'. Th. 2.13, which is invoked, has as hypothesis that the analytic subset be strongly q-COMPLETE and produces strongly q-complete neighborhoods V; and the vanishing $H^k(V, \mathcal{O}^{p_l}) = 0$ for $k \geqslant q$ quoted from Prop. 4.1 a) requires the manifold V to be strongly q-complete (with $q \geqslant 1$). For a merely q-convex U, i.e. with a nonempty exceptional compact set, the Andreotti-Grauert theorem 4.10 a) only gives finite dimensionality of $H^k(U, \mathscr{S})$ for $k \geqslant q$, not vanishing. Consistently, every later application of (4.4) is made to q-complete sets: to the strongly 1-complete sets of §4.C and of Th. 4.8, and to the sets U_j, $G_j \cap U_j$ that are strongly q-complete by Lemma 4.12 c), d).
- **Correction / repair:** In the statement of (4.4) replace 'U a strongly q-convex open subset of A' by 'U a strongly q-complete open subset of A', and in the proof 'a strongly q-convex open set $V \subset \Omega$' by 'a strongly q-complete open set $V \subset \Omega$'.

CIX-M20. §4.C-§4.F: 'strongly 1-convex' should read 'strongly 1-complete'

- **Type:** notation error.
- **Precise location:** printed pp. 422-428: proof of Prop. 4.6 (p. 422), proofs of Prop. 4.7 a) and 4.7 d) (pp. 423-424), proof of Lemma 4.9 (p. 425), first lines of the proof of Th. 4.10 (p. 428).
- **Printed text:** where V' is a strongly 1-convex open subset of V [. . .] a strongly 1-convex open neighborhood of x relatively to a $\mathscr{S}$-distinguished patch [. . .] $V' \Subset V$ are strongly 1-convex open subsets of Ω [. . .] a finite family of strongly 1-convex sets $U'_\alpha \Subset U_\alpha \subset U$ [. . .] consisting of strongly 1-convex open subsets contained in $\mathscr{S}$-distinguished patches [. . .] consisting of strongly 1-convex open sets W_α.
- **Issue:** The Frechet structure on $\mathscr{S}(U)$ and the acyclicity of the coverings used in these proofs are established in §4.C only for strongly 1-COMPLETE sets: the exact sequence (4.5) rests on $H^1(V, \mathcal{Z}^0) = 0$, i.e. on Lemma 4.4 applied with $q = 1$, and §4.C opens with 'Let $V \subset \Omega$ be a strongly 1-complete open set relatively to a $\mathscr{S}$-distinguished patch'. The parallel passages call the same objects 1-complete ('a countable covering of X by strongly 1-complete open sets', p. 422; 'finitely many strongly 1-complete open sets $U'_\alpha \Subset U_\alpha$', p. 424).
- **Correction / repair:** Read 'strongly 1-complete' instead of 'strongly 1-convex' in these six places (p. 422, proof of Prop. 4.6; p. 423, proofs of Prop. 4.7 a) and 4.7 d); p. 424, first lines; p. 425, proof of Lemma 4.9; p. 428, first lines of the proof of Th. 4.10).

CIX-M21. Prop. 4.6, Lemma 4.9: $(i_A)^\star\mathscr{S}$ should be $(i_A)_\star\mathscr{S}$

- **Type:** notation error.
- **Precise location:** printed p. 422 (proof of Prop. 4.6, twice) and p. 425 (proof of Lemma 4.9: the exact sequence and the two entries of the diagram).
- **Printed text:** a choice of generators $G_j \in (i_A)^\star\mathscr{S}(V)$ [...] generators G'_j of $(i'_A)^\star\mathscr{S}$ [...] the cohomology exact sequences of $0 \to \mathcal{Z}^0 \to \mathcal{O}^{p_0} \to i_A^\star\mathscr{S} \to 0$ [...] $H^{q-1}(V, i_A^\star\mathscr{S}) = H^{q-1}(U,\mathscr{S})$.
- **Issue:** The sheaf involved is the direct image $(i_A)_\star\mathscr{S}$, written with a lower star throughout §4.B ('Then $(i_A)_\star\mathscr{S}$ is a coherent $\mathcal{O}_\Omega$-module supported on A', formula (4.3), Lemma 4.4, (4.5)). A raised star denotes the inverse image $i_A^\star$, a different functor; the resolutions and exact sequences considered are those of $(i_A)_\star\mathscr{S}$ over Ω.
- **Correction / repair:** Replace $(i_A)^\star\mathscr{S}$, $(i'_A)^\star\mathscr{S}$ and $i_A^\star\mathscr{S}$ by $(i_A)_\star\mathscr{S}$, $(i'_A)_\star\mathscr{S}$ and $(i_A)_\star\mathscr{S}$ in these five places.

CIX-M22. §4.C: the Cech-Dolbeault formula must be written in degree k, not q

- **Type:** notation error.
- **Precise location:** printed p. 423, §4.C, display of the Cech-Dolbeault comparison map.
- **Printed text:** $\check{H}^k\big(\mathcal{U},\mathcal{O}(E)\big) \longrightarrow H^k\big(\mathcal{C}^\infty_{0,\bullet}(X,E)\big)$, $\{(c_{\alpha_0\ldots\alpha_k})\} \longmapsto f(z) = \sum_{\alpha_0,\ldots,\alpha_q} c_{\alpha_0\ldots\alpha_q}(z)\,\theta_{\alpha_q}\,d''\theta_{\alpha_0} \wedge \ldots \wedge d''\theta_{\alpha_{q-1}}$.
- **Issue:** The map is defined in degree k (source $\check{H}^k$, cochain $(c_{\alpha_0\ldots\alpha_k})$, target H^k, and the next display uses Z^k and $\mathcal{C}^\infty_{0,k-1}$), but the summation index, the indices of c and the number of factors $d''\theta$ are written with q; no q is defined in this paragraph.
- **Correction / repair:** Write $f(z) = \sum_{\alpha_0,\ldots,\alpha_k} c_{\alpha_0\ldots\alpha_k}(z)\,\theta_{\alpha_k}\,d''\theta_{\alpha_0} \wedge \ldots \wedge d''\theta_{\alpha_{k-1}}$.

CIX-M23. §4.C: the analogue is formula (IV-6.12), not (IV-6.11)

- **Type:** cross-reference error.
- **Precise location:** printed p. 423, §4.C, line introducing the Cech-Dolbeault map.
- **Printed text:** by the analogue of formula (IV-6.11) we have a bijective continuous map.
- **Issue:** IV-(6.11) is the intermediate formula $b_{\alpha_0} = \sum_{\nu_0,\ldots,\nu_{q-1}} c_{\nu_0\ldots\nu_{q-1}\alpha_0}\,d\psi_{\nu_0} \wedge \ldots \wedge d\psi_{\nu_{q-1}}$ on U_{α_0} (p. 215). The formula reproduced here, $f = \sum c\,\theta_{\alpha_k}\,d''\theta_{\alpha_0} \wedge \ldots$, is the analogue of IV-(6.12), $f = \sum_{\nu_0,\ldots,\nu_q} c_{\nu_0\ldots\nu_q}\psi_{\nu_q}\,d\psi_{\nu_0} \wedge \ldots \wedge d\psi_{\nu_{q-1}}$.
- **Correction / repair:** Replace '(IV-6.11)' by '(IV-6.12)'.

CIX-M24. Proof of Lemma 4.9: ψ must be a strongly q-convex exhaustion of V

- **Type:** missing hypothesis.
- **Precise location:** printed p. 425, proof of Lemma 4.9, second sentence.
- **Printed text:** Proposition 2.16 applied with $Y = U$ [...] shows that there is a neighborhood V of U in Ω such that $A \cap V = U$ and a strongly q-convex function ψ on V such that $L \subset U_b \Subset U'$.
- **Issue:** What Prop. 2.16 provides, and what is needed here, is a strongly q-convex EXHAUSTION ψ on V, i.e. the strong q-completeness of V: the proof goes on to use 'the proof of Lemma 4.4' to get $H^q(V,\mathcal{Z}^0) = H^q(V_b,\mathcal{Z}^0) = 0$ and to apply Prop. 4.1 b) on V, both of which require V to be strongly q-complete. A strongly q-convex function on V would not suffice.

- **Correction / repair:** Replace 'a strongly q-convex function ψ on V' by 'a strongly q-convex exhaustion ψ on V'.

CIX-M25. Proof of Prop. 4.13: the connecting map lands in $H^q(G_{j+1}, \mathscr{S})$

- **Type:** notation error.
- **Precise location:** printed p. 427, proof of Proposition 4.13, the two-line Mayer-Vietoris display.
- **Printed text:** $H^{q-1}(G_{j+1}, \mathscr{S}) \to H^{q-1}(G_j, \mathscr{S}) \oplus H^{q-1}(U_j, \mathscr{S}) \to H^{q-1}(G_j \cap U_j, \mathscr{S}) \to / \ H^k(G_{j+1}, \mathscr{S}) \to H^k(G_j, \mathscr{S}) \to 0 \to \cdots, \quad k \geqslant q$.
- **Issue:** As printed, the display exhibits an arrow $H^{q-1}(G_j \cap U_j, \mathscr{S}) \to H^k(G_{j+1}, \mathscr{S})$ for every $k \geqslant q$. The connecting homomorphism issued from $H^{q-1}(G_j \cap U_j, \mathscr{S})$ lands in $H^q(G_{j+1}, \mathscr{S})$, as the author himself writes ten lines below; the display is thus correct only for $k = q$. For $k > q$ the Mayer-Vietoris sequence gives the separate segment $0 \to H^k(G_{j+1}, \mathscr{S}) \to H^k(G_j, \mathscr{S}) \to 0$, which is what yields the bijectivity of (4.14) for $k > q$.
- **Correction / repair:** Write the display with $k = q$, i.e. '$\cdots \to H^{q-1}(G_j \cap U_j, \mathscr{S}) \to H^q(G_{j+1}, \mathscr{S}) \to H^q(G_j, \mathscr{S}) \to 0$', and state separately that $0 \to H^k(G_{j+1}, \mathscr{S}) \to H^k(G_j, \mathscr{S}) \to 0$ is exact for $k > q$.

CIX-M26. Prop. 5.5, proof: the open mapping criterion needs E metrizable, not merely complete

- **Type:** missing hypothesis.
- **Precise location:** printed p. 431, proof of Prop. 5.5, first sentence.
- **Printed text:** Recall that when E is locally convex complete and F Hausdorff, a morphism $u : E \to F$ is open if and only if $\overline{u(V)}$ is a neighborhood of 0 for every neighborhood of 0 (this can be checked essentially by the same proof as 1.8 b)).
- **Issue:** The non-trivial implication (nearly open $\Rightarrow$ open) is the Banach–Schauder theorem and fails for a general complete locally convex space. Counterexample: let $X = \mathbb{R}^{\mathbb{N}}$, let E be X with its finest locally convex topology (which is complete) and F be X with the product topology (Hausdorff and barrelled), $u = \mathrm{Id}$. For every convex balanced neighborhood V of 0 in E, $\overline{u(V)}$ is a barrel in the barrelled space F, hence a neighborhood of 0, so u is nearly open; but u is not open, since the two topologies are distinct. The proof of Th. 1.8 b) that is invoked (p. 407) does use metrizability: it chooses a countable fundamental system (U_p) of convex neighborhoods of 0 with $U_{p+1} \subset 2^{-1} U_p$ in order to sum the series $x = \sum x_n$. In the application $E = E_1 \widehat{\otimes}_\pi F_1$, which is a Fréchet space only when E_1, F_1 are; Prop. 5.5 is in fact used only for Fréchet spaces (proof of Prop. 5.17, p. 435).
- **Correction / repair:** Read "when E is a Fréchet space (or, more generally, a Pták space) and F Hausdorff", and add the hypothesis that E_1, E_2, F_1, F_2 are Fréchet spaces in the statement of Prop. 5.5.

CIX-M27. p. 431: nuclear morphisms form a quotient of $E' \widehat{\otimes}_\pi F$, not an isomorphic copy

- **Type:** mathematical error.
- **Precise location:** printed p. 431, paragraph after Def. 5.7, preceding formula (5.8).
- **Printed text:** When E and F are Banach spaces, the space of nuclear morphisms is isomorphic to $E' \widehat{\otimes}_\pi F$ and the nuclear norm $\|f\|_\nu$ is defined to be the norm in this space.
- **Issue:** The canonical map $E' \widehat{\otimes}_\pi F \to \mathcal{L}(E, F)$, $\sum \lambda_j \, \xi_j \otimes y_j \mapsto \big(x \mapsto \sum \lambda_j \, \xi_j(x) \, y_j\big)$, is onto the space $N(E, F)$ of nuclear morphisms, but it is injective for all F if and only if E' has the approximation property (Grothendieck); by Enflo's example there are Banach spaces for which it has a non-zero kernel, i.e. for which a non-zero tensor induces the zero operator. Hence $N(E, F)$ is in general only a quotient of $E' \widehat{\otimes}_\pi F$. Formula (5.8), which defines $\|f\|_\nu$ as the infimum of $\sum |\lambda_j|$ over all nuclear decompositions of f, is precisely the quotient norm and is correct as printed; nothing later in the section is affected.

- **Correction / repair:** Replace "is isomorphic to $E'\widehat{\otimes}_\pi F$ and the nuclear norm $\|f\|_\nu$ is defined to be the norm in this space" by "is a quotient of $E'\widehat{\otimes}_\pi F$ (isomorphic to it as soon as E' or F has the approximation property) and the nuclear norm $\|f\|_\nu$ is defined to be the corresponding quotient norm".

CIX-M28. Prop. 5.5, proof: $E\widehat{\otimes}_\pi F$ should be $E_2\widehat{\otimes}_\pi F_2$

- **Type:** notation error.
- **Precise location:** printed p. 431, proof of Prop. 5.5, first and last sentences.
- **Printed text:** $u : E \to F$ is open if and only if $\overline{u(V)}$ is a neighborhood of 0 for every neighborhood of 0 . . . so it is a neighborhood of 0 in $E\widehat{\otimes}_\pi F$.
- **Issue:** The spaces of Prop. 5.5 are E_1, E_2, F_1, F_2; the bare letters E, F occur only in the generic recollection about a morphism $u : E \to F$. The set considered is the closure of $f\widehat{\otimes}_\pi g\big(B(p\widehat{\otimes}_\pi q)\big)$, which contains the closed convex hull of $f(B(p)) \otimes g(B(q)) \subset E_2 \otimes F_2$; it is therefore a neighborhood of 0 in $E_2\widehat{\otimes}_\pi F_2$. In the same sentence the neighbourhood V of the criterion is not introduced.
- **Correction / repair:** Replace "$E\widehat{\otimes}_\pi F$" by "$E_2\widehat{\otimes}_\pi F_2$", and read "for every neighborhood V of 0".

CIX-M29. Remark 5.9: "closed convex hull" should be "closed balanced convex hull"

- **Type:** mathematical error.
- **Precise location:** printed p. 432, Remark 5.9, last clause.
- **Printed text:** the image $f(U)$ is contained in the closed convex hull of the compact set $\{y_j\} \cup \{0\}$, which is compact.
- **Issue:** For $x \in U$ one has $f(x) = \sum_j \lambda_j\, \xi_j(x)\, y_j$ with $\sum_j |\lambda_j\, \xi_j(x)| \leqslant 1$, but the coefficients $\lambda_j\, \xi_j(x)$ are arbitrary complex scalars, so $f(x)$ lies in the closed *balanced* convex hull of $\{y_j\} \cup \{0\}$, which is strictly larger in general: for $E = F = \mathbb{C}$, $f = \mathrm{Id}$ written as $\lambda_1\xi_1(x)y_1$ with $\lambda_1 = y_1 = 1$, $\xi_1 = \mathrm{Id}$ and U the unit disc, $f(U)$ is the unit disc while the convex hull of $\{1, 0\}$ is $[0, 1]$. The conclusion is unaffected, since the closed balanced convex hull of a compact set in a complete space is compact; the book itself writes "the closed balanced convex hull of $\{y_j\}$" at the top of the same page.
- **Correction / repair:** Replace "the closed convex hull of the compact set $\{y_j\}\cup\{0\}$" by "the closed balanced convex hull of the compact set $\{y_j\} \cup \{0\}$".

CIX-M30. Example 5.12: the restriction $E_{t'} \to E_t$ is nuclear for $t < t'$, not for $t' < t$

- **Type:** mathematical error.
- **Precise location:** printed p. 433, Example 5.12, sentence introducing $\rho_{t,t'}$ and the following displayed estimate.
- **Printed text:** We claim that for $t' < t < 1$ the restriction map $\rho_{t,t'} : E_{t'} \longrightarrow E_t$ is nuclear.
- **Issue:** E_s is the Banach space of holomorphic functions on sD continuous up to the boundary, so a *restriction* map $E_{t'} \to E_t$ exists only if $tD \subset t'D$, i.e. $t < t'$. The estimate that follows confirms this: with the Cauchy inequalities $|a_\alpha(f)| \leqslant p_{t'}(f)/(t'R)^\alpha$ and $\|e_\alpha\|_{p_t} = (tR)^\alpha$ one gets $\|\rho_{t,t'}\|_\nu \leqslant \sum_{\alpha\in\mathbb{N}^n}(t'R)^{-\alpha}(tR)^\alpha = \sum_{\alpha\in\mathbb{N}^n}(t/t')^{|\alpha|} = (1 - t/t')^{-n}$, a convergent series exactly when $t < t'$; for $t' < t$ the series diverges and $(1 - t/t')^{-n}$ is not even positive when n is odd. Definition 5.39 (p. 444) states the corresponding property in the correct order: "$\widehat{A}_{p_{t'}} \to \widehat{A}_{p_t}$ is nuclear for all $t < t' < 1$".
- **Correction / repair:** Replace "for $t' < t < 1$" by "for $t < t' < 1$".

CIX-M31. Prop. 5.20 d), Cor. 5.22 b): left exactness of $H\widehat{\otimes}\bullet$ not established

- **Type:** proof gap / clarification.
- **Precise location:** printed p. 437, proof of Prop. 5.20 d), the "commutative diagram with exact lines"; printed p. 438, proof of Cor. 5.22 b).
- **Printed text:** and a commutative diagram with exact lines ... Therefore the first vertical arrow is an isomorphism. — [p. 438] the tensor product with the nuclear space $H^q(Y,\mathcal{G})$ preserves the exactness of all sequences $0 \to \mathcal{F}(U) \to \prod \mathcal{F}(U_\alpha) \to \prod \mathcal{F}(U_{\alpha\beta})$.
- **Issue:** The diagram chase needs the top line to be exact at $\prod \mathcal{F}(X)\widehat{\otimes}\mathcal{G}(U_\alpha)$ (this is what gives surjectivity of the first vertical arrow), i.e. it needs $\ker\big(\mathrm{Id}_H\widehat{\otimes}\delta\big) = H\widehat{\otimes}\ker\delta$ for $H = \mathcal{F}(X)$ and $\delta : \prod \mathcal{G}(U_\alpha) \to \prod \mathcal{G}(U_{\alpha\beta})$. This does not follow from Prop. 5.17: the sequence $0 \to \mathcal{G}(Y) \to \prod \mathcal{G}(U_\alpha) \xrightarrow{\delta} \prod \mathcal{G}(U_{\alpha\beta})$ is not short exact, and δ need not have closed range (the Čech H^1 of the covering need not be Hausdorff), so $\mathrm{Im}\,\delta$ is not a Fréchet space in general. The same left exactness is asserted without proof in the proof of Cor. 5.22 b).
- **Correction / repair:** Add, e.g. as a complement to Prop. 5.17, the fact that $H\widehat{\otimes}\bullet$ is left exact for a nuclear Fréchet space H: write $\delta = j \circ \pi$ with $\pi : E \to Q = E/\ker\delta$ (a Fréchet space) and $j : Q \to E'$ a continuous injection. Prop. 5.17 applied to $0 \to \ker\delta \to E \to Q \to 0$ gives $\ker(\mathrm{Id}_H\widehat{\otimes}\pi) = H\widehat{\otimes}\ker\delta$, and $\mathrm{Id}_H\widehat{\otimes}j$ is injective for *every* continuous injection j: if $s \in H\widehat{\otimes}_\varepsilon Q$ satisfies $(\mathrm{Id}_H\widehat{\otimes}j)(s) = 0$, then for $\xi \in H'$ one has $j\big((\xi\widehat{\otimes}\mathrm{Id}_Q)(s)\big) = (\xi\widehat{\otimes}\mathrm{Id}_{E'})\big((\mathrm{Id}_H\widehat{\otimes}j)(s)\big) = 0$, hence $(\xi\widehat{\otimes}\mathrm{Id}_Q)(s) = 0$ and $\xi\otimes\eta(s) = 0$ for all $\xi \in H'$, $\eta \in Q'$; since the seminorms $p\otimes_\varepsilon q(s) = \sup_{\|\xi\|_p \leqslant 1, \|\eta\|_q \leqslant 1} |\xi\otimes\eta(s)|$ still compute the topology on the completion, $s = 0$. Therefore $\ker(\mathrm{Id}_H\widehat{\otimes}\delta) = H\widehat{\otimes}\ker\delta$.

CIX-M32. Proof of 5.23: "Th. IV-15.9" should be "Th. IV-15.10"

- **Type:** cross-reference error.
- **Precise location:** printed p. 438, proof of the Künneth formula 5.23, paragraph "It remains to show that the Leray spectral sequence degenerates in E_2".
- **Printed text:** we argue as in the proof of Th. IV-15.9. In that proof, we defined a morphism of the double complex $C^{p,q} = \mathcal{F}^{[p]}(X) \otimes \mathcal{G}^{[q]}(Y)$ into the double complex that defines the Leray spectral sequence (in IV-15.9, we only considered the sheaf theoretic external tensor product $\mathcal{F}\boxtimes\mathcal{G}$ ...).
- **Issue:** Th. IV-15.9 (p. 243) is the universal coefficient formula $0 \to H^p(X,\mathcal{A})\otimes M \to H^p(X,\mathcal{A}\otimes M) \to H^{p+1}(X,\mathcal{A})\star M \to 0$, and its proof (p. 244) contains no double complex of that kind. The double complex $C^{p,q} = \mathcal{A}^{[p]}(X)\otimes\mathcal{B}^{[q]}(Y)$ and the natural morphism $C^{\bullet,\bullet} \to K^{\bullet,\bullet}$ into the double complex defining the Leray spectral sequence of the projection are constructed in the proof of the Künneth theorem IV-15.10 (pp. 244–245).
- **Correction / repair:** Replace both occurrences of "IV-15.9" in this paragraph by "IV-15.10".

CIX-M33. Lemma 5.35: the mapping cylinder differential does not satisfy $d^2 = 0$

- **Type:** mathematical error.
- **Precise location:** printed p. 442, Lemma 5.35, displayed differential of the mapping cylinder $C^q = E^q \oplus F^{q-1}$.
- **Printed text:** $\begin{pmatrix} d_E^q & 0 \\ -f^q & d_F^{q-1} \end{pmatrix} : E^q \oplus F^{q-1} \longrightarrow E^{q+1} \oplus F^q$.
- **Issue:** With this matrix $d(x,y) = \big(d_E^q x,\ -f^q x + d_F^{q-1} y\big)$, hence, using the chain map identity $f^{q+1}d_E^q = d_F^q f^q$, $d\circ d\,(x,y) = \big(0,\ -f^{q+1}d_E^q x + d_F^q(-f^q x)\big) = \big(0,\ -2\,d_F^q f^q x\big)$, which is non-zero as soon as $d_F\circ f \neq 0$ (take $E^\bullet = F^\bullet$, $f = \mathrm{Id}$, $d_F \neq 0$); so $C^\bullet$ is not a complex. In general $\begin{pmatrix} a\,d_E & 0 \\ b\,f & c\,d_F \end{pmatrix}$ squares to $\big(0,\ b(a+c)\,d_F f\,x\big)$, so the differentials of $E^\bullet$ and of the shifted summand $F^{\bullet-1}$ must carry opposite signs. Moreover the

connecting homomorphism of $0 \to F^{\bullet-1} \to C^\bullet \to E^\bullet \to 0$ is $b \cdot H^q(f^\bullet)$, so $b = +1$ is the choice for which the last assertion of the lemma ($\partial^q = H^q(f^\bullet)$) holds literally.

- **Correction / repair:** Replace the displayed matrix by $\begin{pmatrix} d_E^q & 0 \\ f^q & -d_F^{q-1} \end{pmatrix}$ (the variant $\begin{pmatrix} d_E^q & 0 \\ -f^q & -d_F^{q-1} \end{pmatrix}$ also gives $d^2 = 0$, but then $\partial^q = -H^q(f^\bullet)$). The rest of the lemma and its uses (5.34 d), Th. 5.44) are unaffected.

CIX-M34. Proof of Th. 5.42 c): "Lemma 5.42" should be "Lemma 5.43"

- **Type:** cross-reference error.
- **Precise location:** printed p. 446, first sentence (proof of Th. 5.42, step c)).
- **Printed text:** $\mathrm{Id}_B\widehat{\otimes}_A u$ is B-nuclear. By Lemma 5.42, $\mathrm{Id}_B\widehat{\otimes}_A\mathrm{Id}_E - \mathrm{Id}_B\widehat{\otimes}_A u$ has a finitely generated cokernel over B.
- **Issue:** 5.42 is the Subnuclear perturbation theorem itself, whose proof is in progress, so the citation would be circular; it is moreover a Theorem, not a Lemma. The statement actually used — B a Banach algebra, S a Fréchet B-module, $v : S \to S$ B-nuclear $\Rightarrow$ $\mathrm{Coker}(\mathrm{Id}_S - v)$ finitely generated over B — is Lemma 5.43 (p. 445), announced there as "the first step ... the following special case".
- **Correction / repair:** Replace "By Lemma 5.42" by "By Lemma 5.43".

CIX-M35. Proof of Th. 5.44 b): spurious $\bigoplus_{k\in\mathbb{Z}}$ in the definition of M_q^k

- **Type:** notation error.
- **Precise location:** printed p. 446, proof of Th. 5.44, step b), induction hypothesis ii).
- **Printed text:** The mapping cylinder $M_q^\bullet = C(h^\bullet_{\geqslant q,t_q})$ defined by $M_q^k = \bigoplus_{k\in\mathbb{Z}} \big(L^k_{\geqslant q,t_q} \oplus E^{k-1}_{t_q}\big)$ is acyclic in degrees $k > q$.
- **Issue:** The summation index k clashes with the free index k of M_q^k on the left-hand side; as printed, M_q^k would be one and the same degree-independent module for every k, which contradicts "acyclic in degrees $k > q$". By Lemma 5.35 the degree-k term of the mapping cylinder of $h^\bullet_{\geqslant q,t_q} : L^\bullet_{\geqslant q,t_q} \to E^\bullet_{t_q}$ is $L^k_{\geqslant q,t_q} \oplus E^{k-1}_{t_q}$, which is the form used on p. 447 ("$L^k_{\geqslant q,t_q} \oplus E^{k-1}_{t_q} \to L^k_{\geqslant q,t_q} \oplus F^{k-1}_{t_q}$" and "$M^q_{q,t_{q-1}} = L^q_{t_{q-1}} \oplus E^{q-1}_{t_{q-1}}$").
- **Correction / repair:** Delete "$\bigoplus_{k\in\mathbb{Z}}$": read $M_q^k = L^k_{\geqslant q,t_q} \oplus E^{k-1}_{t_q}$.

Typographical and editorial corrections

- **CIX-T01.** printed p. 403, Chapter IX, §1.A, first sentence. *Printed:* We shall use in an essential way different kind of topological results. *Issue:* Number disagreement: 'different' requires a plural noun, and the sentence announces several distinct kinds of results (Krull topology, compact perturbations of operators, abstract Mittag-Leffler theorem). *Correction:* Replace 'different kind of topological results' by 'different kinds of topological results'.
- **CIX-T02.** printed p. 410, proof of Lemma 2.6, sentence 'If we compose the automorphism. . . '. *Printed:* If we compose the automorphism $(z, z') \mapsto (z, z' - H(z))$ of $W \times \mathbb{C}^{N'}$ with the function $v(z) + |z'|^2$ we see that the function $\varphi(z, z') = \widetilde{v}(z) + |z' - H(z)|^2$ is strongly (weakly) q-convex on $W \times \Omega'$. *Issue:* $v = \widetilde{v}_{|A} \circ G$ is a function on the patch $U \subset X$; it is not defined on $W \subset \Omega \subset \mathbb{C}^N$. The function composed with the automorphism is the ambient extension $\widetilde{v}$, as the displayed result $\varphi(z, z') = \widetilde{v}(z) + |z' - H(z)|^2$ shows. *Correction:* Replace 'with the function $v(z) + |z'|^2$' by 'with the function $\widetilde{v}(z) + |z'|^2$'.
- **CIX-T03.** printed p. 412, first line of the proof of Proposition 2.11. *Printed:* Proof. Let Z_k be a stratication of Y as given by Prop. II.5.6. *Issue:* Misspelling: the 'fi' is missing. The cited Prop. II-(5.6) itself calls the object a stratification. *Correction:* Replace 'stratication' by 'stratification'.
- **CIX-T04.** printed p. 414, §3, first sentence. *Printed:* It is obvious by definition that a n-dimensional complex manifold M is strongly q-complete for $q \geqslant n + 1$. *Issue:* Wrong article before a vowel sound; the

book writes 'an n-dimensional' elsewhere. *Correction:* Replace 'a n-dimensional complex manifold' by 'an n-dimensional complex manifold'.

- **CIX-T05.** printed p. 417, proof of Theorem 3.5, sentence beginning 'If $\partial U_{\nu+1,t(s)}$ is a connected component'. *Printed:* If $\partial U_{\nu+1,t(s)}$ is a connected component of $U_{\nu+1}$ containing a point of $\partial U_{\nu,s}$, then $U_{\nu+1,t(s)} \cap U_{\nu,s} \neq \emptyset$ and $U_{\nu+1,t(s)} \smallsetminus \overline{U}_{\nu,s} \neq \emptyset$. *Issue:* It is $U_{\nu+1,t(s)}$, not its boundary, that is a connected component of the open set $U_{\nu+1}$; the rest of the sentence uses $U_{\nu+1,t(s)}$ correctly. *Correction:* Replace 'If $\partial U_{\nu+1,t(s)}$ is a connected component' by 'If $U_{\nu+1,t(s)}$ is a connected component'.

- **CIX-T06.** printed p. 418, proof of Lemma 3.7, sentence beginning 'The open set $W_{j,\nu,s} \smallsetminus X'$ is connected'. *Printed:* The open set $W_{j,\nu,s} \smallsetminus X'$ is connected and non contained in $\overline{\Omega}_{j,\nu} \cup L_{j,\nu,s}$. *Issue:* Gallicism ('non contenu'): English requires 'not contained'. *Correction:* Replace 'non contained in' by 'not contained in'.

- **CIX-T07.** printed p. 419, proof of Proposition 3.8, display defining W. *Printed:* $W = \{x \in X \,;\, \varphi(x) > b+1\}$. *Issue:* No space X occurs in Proposition 3.8: the statement and its proof concern the connected non compact complex manifold M (cf. $P = \{x \in M \smallsetminus U \,;\, \varphi(x) \leqslant b\}$ two lines above). *Correction:* Replace $W = \{x \in X \,;\, \varphi(x) > b+1\}$ by $W = \{x \in M \,;\, \varphi(x) > b+1\}$.

- **CIX-T08.** printed p. 421, line following formula (4.3). *Printed:* of arbitrary large length l, on neighborhoods $W_l \subset W_{l-1} \subset \ldots \subset W_0$. *Issue:* An adverb is required before the adjective 'large'. *Correction:* Replace 'of arbitrary large length l' by 'of arbitrarily large length l'.

- **CIX-T09.** printed p. 422, paragraph beginning 'Now, there is a natural topology on the cohomology groups'. *Printed:* the covering $\mathcal{U}$ is acyclic by Lemma 4.4 and Leray's theorem shows that $H^k(X,\mathscr{S})$ is isomorphic to $\check{H}^q(\mathcal{U},\mathscr{S})$. *Issue:* The degree is k throughout this paragraph and the next ($C^k(\mathcal{U},\mathscr{S})$, $\check{H}^k(\mathcal{U},\mathscr{S})$, $\check{H}^0(\mathcal{U},\mathscr{S})$); no q is defined here. *Correction:* Replace $\check{H}^q(\mathcal{U},\mathscr{S})$ by $\check{H}^k(\mathcal{U},\mathscr{S})$.

- **CIX-T10.** printed p. 422, proof of Proposition 4.6, sentence beginning 'For $V' \subset \Omega'$ sufficient small'. *Printed:* For $V' \subset \Omega'$ sufficient small and $U' = A \cap V'$. *Issue:* An adverb is required: 'sufficiently small'. *Correction:* Replace 'sufficient small' by 'sufficiently small'.

- **CIX-T11.** printed p. 422, proof of Proposition 4.6, display $\mathcal{O}^{p_0}(V) \to \mathcal{O}^{p_0}(V') \to \mathscr{S}(U)$. *Printed:* $\mathcal{O}^{p_0}(V) \xrightarrow{j^\star} \mathcal{O}^{p_0}(V') \xrightarrow{G'} \mathscr{S}(U)$. *Issue:* The target must be $\mathscr{S}(U')$: the sentence introducing the display reads 'the surjective map onto $\mathscr{S}(U')$ equal to the composite', G' was defined as $\mathcal{O}^{p_0}(V') \to \mathscr{S}(U')$, and the conclusion drawn concerns 'the quotient topology on $\mathscr{S}(U')$'. *Correction:* Replace $\mathscr{S}(U)$ by $\mathscr{S}(U')$ in that display.

- **CIX-T12.** printed p. 424, last sentence of the proof of Theorem 4.8, and p. 427, proof of Proposition 4.13. *Printed:* We conclude by Schwartz' theorem 1.9. [...] By Schwartz' theorem 1.9, we conclude that $H^k(X_c,\mathscr{S})$ is Hausdorff and finite dimensional for $k \geqslant q$. *Issue:* Theorem (1.9) is presented on p. 407 as 'the following important finiteness theorem due to H. Cartan and J.-P. Serre', and §4.D is entitled 'Cartan-Serre Finiteness Theorem'. L. Schwartz's theorem is (1.8), p. 406, from which (1.9) is deduced. *Correction:* Replace 'Schwartz' theorem 1.9' by 'the Cartan-Serre criterion 1.9' (or simply 'Theorem 1.9') in both places.

- **CIX-T13.** printed p. 427, third line, end of the proof of Lemma 4.12. *Printed:* and Lemma 4.12 is proved with $X_{c+\varepsilon}$ instead of X_d. In order to achieve the proof, we consider an increasing sequence $c = c_0 < c_1 < \ldots < c_N = d$. *Issue:* False friend: 'achieve' renders the French 'achever' (to finish); in English 'to achieve the proof' does not mean 'to finish the proof'. *Correction:* Replace 'In order to achieve the proof' by 'In order to complete the proof'.

- **CIX-T14.** printed p. 428, italic heading of the last proof of §4.F. *Printed:* Proof of Andreotti-Grauert's Theorem 4.10.. *Issue:* The label '4.10.' is followed by a second full stop. *Correction:* Replace 'Theorem 4.10..' by 'Theorem 4.10.'.

- **CIX-T15.** printed p. 429, introduction of § 5, second paragraph, last sentence. *Printed:* We give below a beautiful proof due to [Kiehl-Verdier 1971] ... Our presentation owes much to the seminar lectures by [Douady-Verdier 1973]. *Correction:* Add: “Douady, A., Verdier, J.-L. [1974] — Séminaire de géométrie analytique (École Norm. Sup. 1971/72), Astérisque 16, Soc. Math. France (1974); in particular A. Douady, Le théorème des images directes de Grauert [d'après Kiehl-Verdier], 49–62", and cite it with the matching key on p. 429.

- **CIX-T16.** printed p. 430, Example 5.3 c), displayed formula for the ε-seminorm. *Printed:* $\|f\|_\varepsilon = \sup_{\|\mu\|\leqslant 1,\ \|\nu\|\leqslant 1} \mu\otimes\nu(f) = \sup_{X\times Y}|f|$. *Issue:* $\mu\otimes\nu(f)$ is a complex number, so a supremum of such quantities is meaningless; the definition of the ε-seminorm on p. 429 reads $p\otimes_\varepsilon q(t) = \sup_{\|\xi\|_p\leqslant 1,\|\eta\|_q\leqslant 1}|\xi\otimes\eta(t)|$, with absolute values. *Correction:* Replace $\mu\otimes\nu(f)$ by $|\mu\otimes\nu(f)|$ in the display.
- **CIX-T17.** printed p. 431, paragraph between Prop. 5.5 and Prop. 5.6, second line. *Printed:* every linear form $\xi_1\in E_1'$ such that $\|\xi_1\|_{p_1}\leqslant 1$ can be extended to a linear form $\xi_2\in E_2$ such that $\|\xi_2\|_{p_2} = \|\xi_1\|_{p_1}$. *Issue:* ξ_2 is a linear form on E_2, i.e. an element of the dual E_2'; the prime is missing (it is present on $\xi_1\in E_1'$ in the same sentence). *Correction:* Replace "$\xi_2\in E_2$" by "$\xi_2\in E_2'$".
- **CIX-T18.** printed p. 431, last two lines. *Printed:* indeed we need only take E_1 be equal to the Hausdorff completion $\widehat{E}_p$ of (E,p). *Issue:* Missing word: "take E_1 to be equal to". *Correction:* Read "we need only take E_1 to be equal to" (or "take E_1 equal to").
- **CIX-T19.** printed p. 432, Remark 5.9, last clause. *Printed:* then, if $U\subset F$ is a neighborhood of 0 such that $|\xi_j(U)|\leqslant 1$ for all j, the image $f(U)$ is contained in …. *Issue:* By Def. 5.7 the ξ_j are continuous linear forms on E and f is defined on E; with $U\subset F$ both the condition $|\xi_j(U)|\leqslant 1$ and the image $f(U)$ are meaningless. U must be a neighborhood of 0 in the source space E. *Correction:* Replace "$U\subset F$" by "$U\subset E$".
- **CIX-T20.** printed p. 433, proof of Proposition (5.14) a), the displayed norm inequality. *Printed:* $f\widehat{\otimes}_\pi g$ and $f\widehat{\otimes}_\varepsilon g$ are nuclear with $\|f\widehat{\otimes}_? g\|_\nu\leqslant\|f\|_\nu\|g\|_\nu$ in both cases. *Issue:* A source placeholder has survived into print: the subscript of the second $\widehat{\otimes}$ is the character '?'. *Correction:* Write $\|f\widehat{\otimes}g\|_\nu\leqslant\|f\|_\nu\|g\|_\nu$, using the convention of p. 433 that the subscript is omitted when E or F is nuclear; or spell out $\|f\widehat{\otimes}_\pi g\|_\nu\leqslant\|f\|_\nu\|g\|_\nu$ and $\|f\widehat{\otimes}_\varepsilon g\|_\nu\leqslant\|f\|_\nu\|g\|_\nu$.
- **CIX-T21.** printed p. 434, last line, statement of Corollary 5.16. *Printed:* (5.16) Corollary. Let E be a nuclear space and let $E\to F$ be a nuclear morphism. *Issue:* Parts a), b) and the proof on p. 435 all refer to f ($f(E)$, $\ker f$, f_1, $\widetilde{f}$), which is never introduced. *Correction:* Read "let $f: E\to F$ be a nuclear morphism".
- **CIX-T22.** printed pp. 439 (Def. 5.25 and the paragraphs following (5.26), (5.28)), 442 (5.34 d)), 443 (Def. 5.36), 445 (proof of 5.42 b)), 446 (proof of 5.44 a)), 448 (proof of Th. 5.1). *Printed:* A (Fréchet, resp. nuclear) A-module E is a (Fréchet, resp. nuclear) space E with a A-module structure such that the multiplication $A\times E\to E$ is continuous. *Correction:* Read "an A-module", "an A-linear map/morphism", "an A-nuclear decomposition/endomorphism", "an $A_{t''}$-subnuclear map", "an $\mathcal{O}(D_t)$-linear morphism".
- **CIX-T23.** printed p. 439, first line of the paragraph following (5.28). *Printed:* Then $E\widehat{\otimes}_A F$ is a A-module which it is not necessarily Hausdorff. *Issue:* Superfluous "it" in the relative clause. *Correction:* Read "which is not necessarily Hausdorff".
- **CIX-T24.** printed p. 441, last sentence of the proof of Corollary 5.31. *Printed:* modulo the image of $E\widehat{\otimes}_A L_{q+1}\to E\widehat{\otimes}_A L_q$, and this is is precisely the definition of $H_q(E\widehat{\otimes}_A L_\bullet)$. *Issue:* Doubled word. *Correction:* Read "and this is precisely the definition".
- **CIX-T25.** printed p. 442, proof of Properties 5.34 b), displayed formula. *Printed:* $\widehat{\mathrm{Tor}}_q^{A_1}\big(A_2, A_1\widehat{\otimes}_A E\big) = \widehat{\mathrm{Tor}}_q^{A}(A_2,E), \qquad \forall n\geqslant 0$. *Issue:* The index of the Tôr functors in the display is q; the letter n occurs nowhere in the formula. *Correction:* Replace "$\forall n\geqslant 0$" by "$\forall q\geqslant 0$".
- **CIX-T26.** printed p. 442, statement of Properties 5.34 b). *Printed:* let E be a nuclear A-module. if A_1 and A_2 are transverse to E over A, then A_2 is tranverse to $A_1\widehat{\otimes}_A E$ over A_1. *Issue:* "if" begins a new sentence and should be capitalized; "tranverse" is a misspelling of "transverse", correctly spelled a few words earlier in the same sentence. *Correction:* Read "… nuclear A-module. If A_1 and A_2 are transverse to E over A, then A_2 is transverse to $A_1\widehat{\otimes}_A E$ over A_1."

- **CIX-T27.** printed p. 443, Definition 5.36 a). *Printed:* an equicontinuous family of A-linears maps $\xi_j : E \to A$. *Issue:* Spurious plural on the adjective. *Correction:* Read "an equicontinuous family of A-linear maps".

- **CIX-T28.** printed p. 446, proof of Th. 5.44, step a), the two displayed formulas. *Printed:* $d^q_{t''} \oplus f^q_{t''} : F^{q-1}_{t''} \oplus Z^q(E^\bullet_{t''}) \longrightarrow Z^q(F^\bullet_{t''})$ is surjective. ... $d^q_{t'} \oplus 0 = \mathrm{Id}_{A_{t'}} \widehat{\otimes}_{A_{t''}} \big((d^q_{t''} \oplus f^q_{t''}) - (0 \oplus f^q_{t''})\big)$. *Correction:* In the two displays replace $d^q_{t''}$ by $d^{q-1}_{t''}$ (twice) and $d^q_{t'}$ by $d^{q-1}_{t'}$.

- **CIX-T29.** printed p. 448, end of the first line. *Printed:* is $\mathcal{O}(D)$-subnuclear and induces an isomorphism on cohomology groups. Set $D = D(y_0, R)$ [solid black rule] and $D_t = D(y_0, tR)$. *Issue:* A solid black rectangle — TeX's `\overfullrule` — protrudes into the right margin at the end of the line, immediately after "Set $D = D(y_0, R)$". It is the only such rule in § 5 (pp. 429–448). No text is missing: the sentence continues "and $D_t = D(y_0, tR)$". *Correction:* Re-break the line (or set `\overfullrule=0pt`) so that the black rule disappears.

Back matter: the References

Range checked: printed pp. 449–455.

Corrections

B-M01. References: entry Cartan [1954] is never cited; the body cites [Cartan 1950]

- **Type:** cross-reference error.

- **Precise location:** printed p. 449, References, entry Cartan, H. [1954]; body citations on pp. 91, 99 and 206.

- **Printed text:** Cartan, H. [1954] — Séminaire de l'École Normale Supérieure 1950/54, W.A. Benjamin, New York (1967).

- **Issue:** The entry is keyed [1954], but the key [Cartan 1954] is never used: the text cites [Cartan 1950] three times — "H. Cartan's seminar [Cartan 1950]" (p. 91), "(4.29) Theorem ([Cartan 1950])" (p. 99) and "([Leray 1950], [Cartan 1950])" (p. 206) — and there is no entry keyed 1950. So each of the three citations is dangling.

- **Correction / repair:** Make the key and the citations agree, e.g. re-key the entry as "Cartan, H. [1950-54] — Séminaire de l'École Normale Supérieure 1950/54, W.A. Benjamin, New York (1967)" and cite it as [Cartan 1950-54] on pp. 91, 99 and 206 (or keep the key [1954] and change the three citations to [Cartan 1954]).

B-M02. Grauert–Riemenschneider: key [1971] for a 1970 paper, and the citation in Th. VII-3.5

- **Type:** cross-reference error.

- **Precise location:** printed p. 451, References, entries Grauert, H., Riemenschneider, O. [1970] and [1971]; body citation on p. 334, Theorem 3.5.

- **Printed text:** Grauert, H., Riemenschneider, O. [1971] — Verschwindungssätze für analytische Kohomologiegruppen auf komplexen Räumen, Invent. Math. 11 (1970) 263–292. — (3.5) Theorem ([Grauert-Riemenschneider 1970]). (p. 334).

- **Issue:** The key of the second entry is [1971] although the paper appeared in Invent. Math. 11 (1970) 263–292, and the neighbouring entry ("Kählersche Mannigfaltigkeiten mit hyper-q-konvexem Rand", Bochner symposium) is keyed [1970]. Theorem VII-3.5, which is the vanishing theorem of the Invent. Math. paper, is cited on p. 334 as [Grauert-Riemenschneider 1970]; with the printed keys this points to the wrong paper.

- **Correction / repair:** Key the two papers [1970a] (Kählersche Mannigfaltigkeiten mit hyper-q-konvexem Rand) and [1970b] (Verschwindungssätze für analytische Kohomologiegruppen auf komplexen Räumen, Invent. Math. 11 (1970) 263–292), and cite [Grauert-Riemenschneider 1970b] in Theorem VII-3.5 on p. 334.

Bibliographic and typographical corrections

- **B-T01.** printed p. 449, References, entry Azhari, A. [1990]. *Printed:* Azhari, A. [1990] — Sur la conjecture de Chudnovsky-Demailly et les singularités des hypersurfaces algébriques, Ann. Inst. Fourier (Grenoble) 40 (1990) 106–117. *Issue:* Wrong page range: the paper is Ann. Inst. Fourier (Grenoble) 40 (1990), fasc. 1, pp. 103–116. *Correction:* Replace "106–117" by "103–116".

- **B-T02.** printed p. 449, References, entry Bedford, E., Taylor, B.A. [1982]. *Printed:* Bedford, E., Taylor, B.A. [1982] — A new capacity for plurisubharmonic functions, Acta Math. 149 (1982) 1–41. *Issue:* Wrong page range: "A new capacity for plurisubharmonic functions" occupies Acta Math. 149 (1982), pp. 1–40. *Correction:* Replace "1–41" by "1–40".

- **B-T03.** printed p. 449, entry Bott, R., Chern S.S. [1965]; p. 452, entries Lang S. [1965] and Lelong P. [1967]. *Printed:* Bott, R., Chern S.S. [1965] / Lang S. [1965] / Lelong P. [1967]. *Issue:* In these three entries the comma between surname and initials is missing, whereas every other entry of the list (including the neighbouring Lelong, P. [1942], [1957], [1968]) has the form "Surname, Initials". *Correction:* Print "Bott, R., Chern, S.S. [1965]", "Lang, S. [1965]", "Lelong, P. [1967]".

- **B-T04.** printed p. 450, References, entry Chern, S.S. [1946]. *Printed:* Chern, S.S. [1946] — Characteristic classes of hermitian manifolds, Ann. of Math. 71 (1946) 85–121. *Issue:* Wrong volume number: the paper is Ann. of Math. (2) 47 (1946), 85–121 (volume 71 of the Annals is dated 1960). *Correction:* Replace "Ann. of Math. 71 (1946)" by "Ann. of Math. (2) 47 (1946)".

- **B-T05.** printed p. 450, References, entry Demailly, J.P. [1984]. *Printed:* Demailly, J.P. [1984] — Sur l'identité de Bochner-Kodaira-Nakano en géométrie hermitienne, Séminaire P. Lelong - P. Dolbeault - H. Skoda (Analyse) 1983/84, Lecture Notes in Math. no 1198, Springer-Verlag (1985) 88–97. *Issue:* Lecture Notes in Math. 1198 (Séminaire d'Analyse P. Lelong – P. Dolbeault – H. Skoda, années 1983/1984) was published in 1986. *Correction:* Replace "(1985) 88–97" by "(1986) 88–97".

- **B-T06.** printed p. 450, entry Demailly [1987a]; p. 451, entry Griffiths [1969]; p. 453, entry Peternell–Le Potier–Schneider [1987a]. *Printed: Nombres de Lelong généralisés*, théorèmes d'intégralité et d'analyticité, Acta Math. 159 ... / *Hermitian differential geometry*, Chern classes and positive vector bundles, Global Analysis ... / *Vanishing theorems*, linear and quadratic normality, Invent. Math. 87 ... *Issue:* In these three entries the italic run of the title ends at the first comma, so that the second half of the title ("théorèmes d'intégralité et d'analyticité", "Chern classes and positive vector bundles", "linear and quadratic normality") is set in roman and reads like the name of the journal or volume. *Correction:* Italicise the complete titles.

- **B-T07.** printed p. 450, References, entry Demailly, J.P. [1988a]. *Printed:* Demailly, J.P. [1988a] — Vanishing theorems for tensor powers of a positive vector bundle, Proceedings of the Conference "Geometry and Analysis on Manifolds" held in Katata-Kyoto (august 1987), edited by T. Sunada, Lecture Notes in Math. no 1339, Springer-Verlag (1988). *Issue:* The page numbers are missing; the article occupies pp. 86–105 of Lecture Notes in Math. 1339. *Correction:* Add "86–105" after "(1988)".

- **B-T08.** printed p. 450, References, entry Diederich, K., Fornaess, J.E. [1977]. *Printed:* Diederich, K., Fornaess, J.E. [1977] — Pseudoconvex domains: bounded strictly plurisubharmonic functions, Invent. Math. 39 (1977) 129–141. *Issue:* A word of the title is missing: the paper is "Pseudoconvex domains: bounded strictly plurisubharmonic exhaustion functions". *Correction:* Insert "exhaustion" before "functions".

- **B-T09.** printed p. 451, References, entry EGA, Grothendieck, G., Dieudonné, J.A. [1960-67]. *Printed:* EGA, Grothendieck, G., Dieudonné, J.A. [1960-67] — Elements de géométrie algébrique I, II, III, IV, Publ. Math. I.H.E.S. no 4, 8, 11, 17, 20, 24, 28, 32 (1960–1967). *Issue:* Alexander Grothendieck's initial is A., as in the four other Grothendieck entries on the same page, not G.; and the French title carries accents: "Éléments de géométrie algébrique". *Correction:* Replace "Grothendieck, G." by "Grothendieck, A." and "Elements" by "Éléments".

- **B-T10.** printed p. 451, References, entry Godement, R. [1958]. *Printed:* Godement, R. [1958] — Théorie des faisceaux, Hermann, Paris (1958). *Issue:* The title of Godement's book is "Topologie algébrique et théorie des faisceaux" (Actualités Sci. Ind. 1252, Publ. Inst. Math. Univ. Strasbourg XIII, Hermann, Paris, 1958). *Correction:* Replace the title by "Topologie algébrique et théorie des faisceaux".

- **B-T11.** printed p. 451, References, entries Grothendieck, A. [1966] and Hartshorne, R. [1966]. *Printed:* Grothendieck, A. [1966] — On the De Rham cohomology of algebraic varieties, Publ. Math. I.H.E.S. 29 (1966) 351–359. — Hartshorne, R. [1966] — Ample vector bundles, Publ. Math. I.H.E.S. 29 (1966) 319–350. *Issue:* Wrong page ranges in both entries, each shifted by exactly 256 pages: Grothendieck's paper is Publ. Math. I.H.É.S. 29 (1966), pp. 95–103, and Hartshorne's is Publ. Math. I.H.É.S. 29 (1966), pp. 63–94. *Correction:* Replace "351–359" by "95–103" in the Grothendieck [1966] entry and "319–350" by "63–94" in the Hartshorne [1966] entry.

- **B-T12.** printed p. 451, References, entry Greene, R.E., Wu, H.H. [1975]. *Printed:* Grothendieck, A. [1968] — Standard conjectures on algebraic cycles ... / Greene, R.E., Wu, H.H. [1975] — Embedding of open riemannian manifolds by harmonic functions, Ann. Inst. Fourier (Grenoble) 25 (1975) 215–235. / Gunning, R.C., Rossi, H. [1965] — ... *Issue:* The entry is printed after the four Grothendieck entries; alphabetically "Greene" precedes "Griffiths" and "Grothendieck". *Correction:* Move the Greene–Wu entry so that it precedes "Griffiths, P.A. [1966]".

- **B-T13.** printed p. 452, References, entry Hörmander, L. [1963]. *Printed:* Hörmander, L. [1963] — Linear partial differential operators Grundlehren der math. Wissenschaften, Band 116, Springer-Verlag, Berlin (1963). *Issue:* The comma between the title and the series name is missing (and the italic runs on through the series name), so that the series looks like part of the title. *Correction:* Print "Linear partial differential operators, Grundlehren der math. Wissenschaften, Band 116, Springer-Verlag, Berlin (1963)", with the italic ending after "operators".

- **B-T14.** printed p. 452, References, entry Hörmander, L. [1966]. *Printed:* Hörmander, L. [1966] — An introduction to Complex Analysis in several variables, 1st edition, Elsevier Science Pub., New York, 1966, 3rd revised edition, North-Holland Math. library, Vol 7, Amsterdam (1990). *Issue:* The first edition (1966) was published by D. Van Nostrand, Princeton, N.J. (University Series in Higher Mathematics), not by Elsevier; only the later editions are North-Holland/Elsevier. *Correction:* Replace "Elsevier Science Pub., New York, 1966" by "Van Nostrand, Princeton, N.J., 1966".

- **B-T15.** printed p. 452, References, entry Hopf, H., Rinow, W. [1931]. *Printed:* Hopf, H., Rinow, W. [1931] — Über den Begriff der vollständigen differentialgeometrischen Fläche, Comment. Math. Helv. 3 (1931) 209–255. *Issue:* Wrong last page: the paper occupies Comment. Math. Helv. 3 (1931), pp. 209–225. *Correction:* Replace "209–255" by "209–225".

- **B-T16.** printed p. 452, References, entry Kohn, J.J. [1963]. *Printed:* Kohn, J.J. [1963] — Harmonic integrals on strongly pseudo-convex manifolds I, Ann. Math. 78 (1963) 206–213. *Issue:* Wrong page range: Part I occupies Ann. of Math. (2) 78 (1963), pp. 112–148. (The following entry, Part II, Ann. Math. 79 (1964) 450–472, is correct.) *Correction:* Replace "206–213" by "112–148".

- **B-T17.** printed p. 452, References, entry Kiselman, C.O. [1983]; p. 454, entry Von Neumann, J. [1929]. *Printed:* Springer-Verlag, Berlin (1984) 139—150. / Math. Ann. 102 (1929) 370-427. *Issue:* Inconsistent dashes: an em-dash in "139—150" and a hyphen in "370-427", whereas all the other page ranges of the list use an en-dash. *Correction:* Print "139–150" and "370–427".

- **B-T18.** printed p. 453, References, entry Levi, E.E. [1910]. *Printed:* Levi, E.E. [1910] — Studii sui punti singolari essenziali delli funzioni analitiche di due o più variabili complesse, Ann. Mat. Pura Appl. (3), 17 (1910) 61–87. *Issue:* The Italian title is misprinted: the article is "delle funzioni" (feminine plural), not "delli funzioni". *Correction:* Replace "delli" by "delle".

- **B-T19.** printed p. 453, References, entry Newlander, A., Nirenberg, N. [1957]. *Printed:* Newlander, A., Nirenberg, N. [1957] — Complex analytic coordinates in almost complex manifolds, Ann. Math. (2), 65

(1957) 391–404. *Issue:* Wrong initial: the second author is L. Nirenberg (as in the entry “Chern, S.S., Levine, H.I., Nirenberg, L. [1969]” on p. 450). *Correction:* Replace “Nirenberg, N.” by “Nirenberg, L.”.

- **B-T20.** printed p. 453, References, entries Oka, K. [1942], [1950], [1953]. *Printed:* Sur les fonctions de plusieurs variables VI, Domaines pseudoconvexes / ... VII, Sur quelques notions arithmétiques / ... IX, Domaines finis sans point critique intérieur. *Issue:* The series title of Oka’s memoirs is “Sur les fonctions analytiques de plusieurs variables”; the word “analytiques” is missing in all three entries. *Correction:* Replace “Sur les fonctions de plusieurs variables” by “Sur les fonctions analytiques de plusieurs variables” in the three Oka entries.

- **B-T21.** printed p. 453, References, entry Ramanujam, C.P. [1974]; body citation on p. 335, Remark 4.5. *Printed:* Ramanujam, C.P. [1974] — Remarks on the Kodaira vanishing theorem, J. Indian Math. Soc. 36 (1972) 41–50 ; 38 (1974) 121–124. — (4.5) Remark. The following example due to [Ramanujam 1972, 1974] ... (p. 335). *Issue:* (a) The entry is keyed [1974] only, but the text cites [Ramanujam 1972, 1974] (p. 335), a key that does not exist. (b) The 1972 paper occupies J. Indian Math. Soc. (N.S.) 36 (1972), pp. 41–51, not 41–50; the 1974 item is the “Supplement to the article Remarks on the Kodaira vanishing theorem”. *Correction:* Key the entry [1972, 1974] (or split it into [1972] and [1974]) so that it matches the citation on p. 335, and replace “41–50” by “41–51”.

- **B-T22.** printed p. 454, References, entry Schwartz, L. [1953]. *Printed:* Schwartz, L. [1953] — Homomorphismes et applications complètement continues, C. R. Acad. Sci 236 (1953) 2472–2473. *Issue:* The abbreviation lacks its final period; all the other Comptes Rendus entries are printed “C. R. Acad. Sci. Paris”. *Correction:* Print “C. R. Acad. Sci. Paris 236 (1953) 2472–2473.”

- **B-T23.** printed p. 454, References, entry Siegel, C.L. [1955]. *Printed:* Siegel, C.L. [1955] — Meromorphic Funktionen auf kompakten Mannigfaltigkeiten, Nachrichten der Akademie der Wissenschaften in Göttingen, Math.-Phys. Klasse 4 (1955) 71–77. *Issue:* The title is garbled: “Meromorphic” is English, and the word “analytischen” is missing. The paper is “Meromorphe Funktionen auf kompakten analytischen Mannigfaltigkeiten”, Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. 4 (1955) 71–77. *Correction:* Replace the title by “Meromorphe Funktionen auf kompakten analytischen Mannigfaltigkeiten”.

- **B-T24.** printed p. 454, References, entry Stein, K. [1951]. *Printed:* Stein, K. [1951] — Analytische Funktionen mehrerer komplexer Veränderlichen und das zweite Cousin’sche Problem, Math. Ann. 123 (1951) 201–222. *Issue:* The title is truncated: the paper is “Analytische Funktionen mehrerer komplexer Veränderlichen zu vorgegebenen Periodizitätsmoduln und das zweite Cousinsche Problem” (the volume and page numbers are correct). *Correction:* Replace the title by “Analytische Funktionen mehrerer komplexer Veränderlichen zu vorgegebenen Periodizitätsmoduln und das zweite Cousinsche Problem”.

- **B-T25.** printed p. 455, References, entry Warner, F. [1971]. *Printed:* Warner, F. [1971] — Foundations of differentiable manifolds and Lie groups, Academic Press, New York (1971). *Issue:* Wrong publisher: the 1971 edition was published by Scott, Foresman and Co., Glenview, Ill.; the later edition is Springer, Graduate Texts in Math. 94 (1983). *Correction:* Replace “Academic Press, New York (1971)” by “Scott, Foresman and Co., Glenview, Ill. (1971)” (or cite the Springer edition, Graduate Texts in Math. 94, 1983).

- **B-T26.** printed p. 455, References, entry Weil, A. [1957]. *Printed:* Weil, A. [1957] — Variétés kählériennes, Hermann, Paris (1957). *Issue:* Both title and year are wrong: the book is “Introduction à l’étude des variétés kählériennes”, Actualités Sci. Ind. 1267, Hermann, Paris, 1958. *Correction:* Replace the entry by “Weil, A. [1958] — Introduction à l’étude des variétés kählériennes, Actualités Sci. Ind. 1267, Hermann, Paris (1958).”

- **B-T27.** printed p. 455, References, entry Witten, E. [1984]. *Printed:* Witten, E. [1984] — Holomorphic Morse inequalities, Taubner-Texte zur Math. 70, Algebraic and Differential Topology, Ed. G.M. Rassias (1984) 318–333. *Issue:* The series name is misspelt: it is the “Teubner-Texte zur Mathematik” (B.G. Teubner, Leipzig). The entry Weyl [1913] on the same page prints “Teubner” correctly. *Correction:* Replace “Taubner-Texte” by “Teubner-Texte”.

Index of the entries that correct a false printed statement

The following entries record a printed statement, formula, or hypothesis that is mathematically wrong as it stands, as opposed to a gap, an imprecision, a wrong cross-reference, or a misprint. They are listed here only for convenience; each is stated in full at its own place above.

- **CI-M05** (printed p. 17): Theorem (2.14) b): missing sign $(-1)^{m_1-m_2}$ in $d(F_\star T) = F_\star(dT)$
- **CI-M06** (printed p. 18): (2.18): both formulas need a sign when $m_1 - m_2$ is odd
- **CI-M09** (printed p. 19): (2.22): wrong sign in the homotopy formula for currents
- **CI-M11** (printed p. 26): (3.23): wrong sign in the Bochner–Martinelli kernel ($d''k_{\mathrm{BM}} = -\delta_0$)
- **CI-M19** (printed p. 43): Lemma 5.18: the smoothing kernel of M_η is not normalized
- **CI-M26** (printed p. 50): Example 6.15: the condition is $\theta_j/2\pi \in \mathbb{Q}$, not $\theta_j \in \mathbb{Q}$
- **CII-M28** (printed p. 106): Corollary 6.3: the codimension inequality is reversed
- **CII-M31** (printed p. 108): Proof of Th. 6.11: the pole set is where $\mathcal{J}_x \neq \mathcal{O}_{X,x}$
- **CII-M47** (printed p. 126): (10.2): false for non-reduced schemes; a reducedness hypothesis is needed
- **CIII-M01** (printed p. 135): § 1.18: $u = 2\,\mathrm{Re}\, v$ should be $u = 2\,\mathrm{Im}\, v$
- **CIII-M13** (printed p. 146): Remark 3.5: missing factors 2 in the polarization identity
- **CIII-M41** (printed p. 180): Proof of Prop. 8.16: exponent n should be p
- **CIV-M29** (printed p. 239): Proposition 14.16: the identification with $H^q_c(X \smallsetminus S, M)$ needs S closed
- **CIV-M30** (printed p. 242): Corollary 15.6: the hypothesis of (15.5) on $K^\bullet$ or $L^\bullet$ is missing
- **CV-M20** (printed p. 274): Theorem 14.5: wrong sign of the off-diagonal entry of $\Theta(E)$
- **CVI-M20** (printed p. 318): Proof of Theorem 10.7 b): missing factor 2π in the conformal change $h' = he^{-\varphi}$
- **CVI-M25** (printed p. 325): Proof of Lemma 12.1: the E_1 and E_2 terms are off by one
- **CVII-M15** (printed p. 339): Formula (6.9): missing minus sign in $\theta_{H^\star}(v, v)$
- **CVII-M35** (printed p. 361): Example 14.7: missing minus sign in $\mathrm{Im}\, h(\gamma_1'', \gamma_2'')$
- **CVIII-M16** (printed p. 381): Theorem 7.1: missing factor $|\sigma|^2$ in the Cauchy-Schwarz inequality
- **CVIII-M21** (printed p. 386): Comment after Th. 8.6: $a \leqslant 2$ should be $a \leqslant n-2$
- **CIX-M02** (printed p. 411): Def. 2.7: a compact scheme is strongly 0-convex, not 0-complete
- **CIX-M05** (printed p. 414): Prop. 2.16: the clause $U = Y \cap V$ is impossible and must be deleted
- **CIX-M09** (printed p. 416): Proof of Lemma 3.3: wrong powers of $(x_1 + r)$ in $\Delta_\omega v/v$
- **CIX-M14** (printed p. 418): Proof of Th. 3.6 c): 'dim $Y \leqslant n-1$' is false; Y is n-complete by b)
- **CIX-M19** (printed p. 421): Lemma 4.4: the hypothesis must be 'strongly q-complete'
- **CIX-M30** (printed p. 433): Example 5.12: the restriction $E_{t'} \to E_t$ is nuclear for $t < t'$, not for $t' < t$
- **CIX-M33** (printed p. 442): Lemma 5.35: the mapping cylinder differential does not satisfy $d^2 = 0$