DIAGRAMS FOR CHAPTER 6

PETER J. HAINE

Diagram 6.2.8.

$$0 \longrightarrow \mathcal{M}(X) \longrightarrow \mathcal{M}(\mathbb{U}_0) \longrightarrow \mathcal{M}(\mathbb{U}_1)$$

Diagram 6.2.9.

$$0 \longrightarrow \mathcal{M}(X)_s \longrightarrow \mathcal{M}(\mathbb{U}_0)_s \longrightarrow \mathcal{M}(\mathbb{U}_1)_s$$

Diagram 6.2.10.

$$0 \longrightarrow \mathcal{M}(X_s) \longrightarrow \mathcal{M}(\mathbb{U}_{0,s}) \longrightarrow \mathcal{M}(\mathbb{U}_{1,s})$$

Diagram 6.2.12.

$$\begin{array}{ccc} \mathcal{M}(U) & \xrightarrow{\phi(U)} & \mathcal{N}(U) \\ {\scriptstyle j^*}\downarrow & & {\scriptstyle j^*}\downarrow \\ \mathcal{M}(V) & \xrightarrow{\phi(V)} & \mathcal{N}(U) \end{array}$$

Diagram before 6.3.1.

$$\mathcal{O}(r) \times \mathcal{O}(s) \longrightarrow \mathcal{O}(r+s)$$

Diagram 6.3.1.

$$\mathcal{O}(U) \xrightarrow{f} \mathcal{O}(k+d)\ .$$

Diagram 6.2.12.

$$\mathcal{O}(-d) \xrightarrow{f} \mathcal{O}$$

Diagram 6.4.2.

$$U \longleftarrow \mathbb{U}_0 \leftleftarrows \mathbb{U}_1$$

Diagram 6.4.3.

$$0 \longrightarrow \mathcal{M}(U) \xrightarrow{\alpha} \mathcal{M}(\mathbb{U}_0) \xrightarrow{\beta} \mathcal{M}(\mathbb{U}_1)$$

Diagram in Corollary 6.4.5.

$$0 \longrightarrow \mathcal{M}(U) \longrightarrow \mathcal{M}(U^0) \oplus \mathcal{M}(U^1) \longrightarrow \mathcal{M}(U^0 \cap U^1)$$

Diagram 6.5.3.

$$0 \longrightarrow \widetilde{\mathcal{M}}(Y) \xrightarrow{\alpha} \mathcal{M}(\mathbb{U}_0) \xrightarrow{\beta} \mathcal{M}(\mathbb{U}_1)$$

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Diagram 6.5.5.

$$\begin{array}{ccccc}
\mathbb{U}_1 & \longleftarrow & \mathbb{U}_1\mathbb{V}_0 & & \\
\downarrow\downarrow & & \downarrow\downarrow & & \\
\mathbb{U}_0 & \longleftarrow & \mathbb{U}_0\mathbb{V}_0 & \rightleftarrows & \mathbb{U}_0\mathbb{V}_1 \\
\downarrow & & \downarrow & & \\
Y & \longleftarrow & \mathbb{V}_0 & \rightleftarrows & \mathbb{V}_1
\end{array}$$

Diagram 6.5.6.

$$\begin{array}{ccccccc}
0 & \longrightarrow & \mathcal{M}(\mathbb{U}_1) & \longrightarrow & \mathcal{M}(\mathbb{U}_1\mathbb{V}_0) & & \\
 & & \uparrow{\scriptstyle u} & & \uparrow & & \\
0 & \longrightarrow & \mathcal{M}(\mathbb{U}_0) & \longrightarrow & \mathcal{M}(\mathbb{U}_0\mathbb{V}_0) & \longrightarrow & \mathcal{M}(\mathbb{U}_0\mathbb{V}_1) \\
 & & & & \uparrow & & \uparrow \\
 & & & & \mathcal{M}(\mathbb{V}_0) & \xrightarrow{v} & \mathcal{M}(\mathbb{V}_1) \\
 & & & & \uparrow & & \uparrow \\
 & & & & 0 & & 0
\end{array}$$

Diagram after 6.5.6.

$$\begin{array}{ccc}
\mathbb{U}_0' & \longrightarrow & \mathbb{U}_0 \\
\downarrow & & \downarrow \\
Y' & \longrightarrow & Y
\end{array}$$

Diagram 6.5.7.

$$\begin{array}{ccccc}
Y & \longleftarrow & \mathbb{W}_0 & \rightleftarrows & \mathbb{W}_1 \\
\| & & \downarrow & & \downarrow \\
Y & \longleftarrow & \mathbb{V}_0 & \rightleftarrows & \mathbb{V}_1
\end{array}$$

Diagram 6.5.8.

$$\begin{array}{ccccccc}
0 & \longrightarrow & \widetilde{\mathcal{M}}(Y) & \longrightarrow & \widetilde{\mathcal{M}}(\mathbb{W}_0) & \longrightarrow & \widetilde{\mathcal{M}}(\mathbb{W}_1) \\
 & & \| & & \uparrow & & \uparrow \\
 & & \widetilde{\mathcal{M}}(Y) & \longrightarrow & \widetilde{\mathcal{M}}(\mathbb{V}_0) & \xrightarrow{v} & \widetilde{\mathcal{M}}(\mathbb{V}_1)
\end{array}$$

Diagram 6.5.13.

$$0 \longrightarrow M \xrightarrow{\alpha} \prod M_i \xrightarrow{\beta} \prod M_{ij}$$

Diagram 6.6.1.

$$\mathcal{M} \longrightarrow \mathcal{N} \longrightarrow \mathcal{P}$$

Diagram 6.6.2.

$$\mathcal{M}(U) \longrightarrow \mathcal{N}(U) \longrightarrow \mathcal{P}(U)$$

Diagrams in Proposition 6.6.3.

$$0 \longrightarrow \mathcal{M} \longrightarrow \mathcal{N} \longrightarrow \mathcal{P}$$

$$0 \longrightarrow \mathcal{M}(U) \longrightarrow \mathcal{N}(U) \longrightarrow \mathcal{P}(U)$$

$$\begin{array}{ccccccc}
 & & 0 & & 0 & & 0 \\
 & & \downarrow & & \downarrow & & \downarrow \\
0 & \longrightarrow & \mathcal{M}(U) & \xrightarrow{u} & \mathcal{N}(U) & \xrightarrow{v} & \mathcal{P}(U) \\
 & & \downarrow{\scriptstyle r} & & \downarrow{\scriptstyle s} & & \downarrow \\
0 & \longrightarrow & \mathcal{M}(\mathbb{U}_0) & \xrightarrow{u'} & \mathcal{N}(\mathbb{U}_0) & \xrightarrow{v'} & \mathcal{P}(\mathbb{U}_0) \\
 & & \downarrow{\scriptstyle r'} & & \downarrow{\scriptstyle s'} & & \downarrow \\
0 & \longrightarrow & \mathcal{M}(\mathbb{U}_1) & \xrightarrow{u''} & \mathcal{N}(\mathbb{U}_1) & \longrightarrow & \mathcal{P}(\mathbb{U}_1)
\end{array}$$

$$\begin{array}{ccc}
z & \xrightarrow{u} & x \\
\downarrow{\scriptstyle r} & & \downarrow{\scriptstyle s} \\
y & \xrightarrow{u'} & s(x)
\end{array}$$

Diagrams after the proof of Proposition 6.6.3.

$$0 \longrightarrow \mathcal{K} \longrightarrow \mathcal{M} \longrightarrow \mathcal{I} \longrightarrow 0$$

$$0 \longrightarrow \mathcal{I} \longrightarrow \mathcal{N} \longrightarrow \mathcal{C} \longrightarrow 0$$

Diagrams after the proof of Corollary 6.6.4.

$$0 \longrightarrow \mathcal{K}(U) \longrightarrow \mathcal{M}(U) \longrightarrow \mathcal{I}(U) \longrightarrow 0$$

$$0 \longrightarrow \mathcal{I}(U) \longrightarrow \mathcal{N}(U) \longrightarrow \mathcal{C}(U) \longrightarrow 0$$

Diagram 6.7.4.

$$\mathcal{M}(k) \xrightarrow{f} \mathcal{M}(k+d)$$

Diagram 6.7.5.

$$\mathcal{M} \xrightarrow{x_0^k} \mathcal{M}(k)$$

Diagram 6.7.7.

$$\mathcal{O}_X^k \xrightarrow{m} \mathcal{M}$$

Diagram 6.7.10.

$$\mathcal{O}_X^k \xrightarrow{m} \mathcal{M}$$

Diagram 6.7.11.

$$\mathcal{O}(-d)^0 \xrightarrow{x_0^{-d}} \mathcal{O}^0 \xrightarrow{m_0} \mathcal{M}^0$$

Diagram 6.8.6.

$$0 \longrightarrow \mathfrak{m}_p \longrightarrow \mathcal{O} \xrightarrow{\pi_p} i_*\kappa \longrightarrow 0$$

Diagram 6.8.7.

$$0 \longrightarrow \mathfrak{m}_p \cap \mathfrak{m}_{p'} \longrightarrow \mathcal{O} \xrightarrow{\pi_{p,p'}} i_*\kappa \oplus i_*\kappa' \longrightarrow 0$$

Diagram before Example 6.8.8.

$$0 \longrightarrow 0 \longrightarrow \mathbb{C} \longrightarrow \mathbb{C} \oplus \mathbb{C} \longrightarrow 0$$

First diagram in 6.8.10.

$$0 \longrightarrow \mathcal{I}(U) \longrightarrow \mathcal{O}(U) \longrightarrow \overline{\mathcal{O}}(U) \longrightarrow 0$$

Diagram in the proof of Lemma 6.8.13.

$$0 \longrightarrow \mathcal{M}(U_1) \longrightarrow \mathcal{M}(U_{12}) \times \mathcal{M}(V) \longrightarrow \mathcal{M}(V) \ ,$$

Diagram 6.9.1.

$$M_0 \longrightarrow M_1 \longrightarrow M_2 \longrightarrow \cdots$$

Diagram after Lemma 6.9.4.

$$\begin{array}{ccccccc} \cdots & \longrightarrow & M_n & \longrightarrow & M_{n+1} & \longrightarrow & \cdots \\ & & \downarrow{\scriptstyle \phi_n} & & \downarrow{\scriptstyle \phi_{n+1}} & & \\ \cdots & \longrightarrow & M'_n & \longrightarrow & M'_{n+1} & \longrightarrow & \cdots \end{array}$$

Diagram 6.9.6.

$$\mathcal{M}_\bullet = \{\, \mathcal{M}_0 \longrightarrow \mathcal{M}_1 \longrightarrow \mathcal{M}_2 \longrightarrow \cdots \}$$

Diagram 6.9.8.

$$\mathcal{O} \xrightarrow{x_0} \mathcal{O}(1) \xrightarrow{x_0} \mathcal{O}(2) \xrightarrow{x_0} \cdots \ ,$$

Diagram 6.9.9.

$$\mathcal{M} \xrightarrow{x_0} \mathcal{M}(1) \xrightarrow{x_0} \mathcal{M}(2) \xrightarrow{x_0} \cdots \ ,$$

Diagram 6.9.12.

$$\mathcal{M}(U^0) \xrightarrow{x_0^k} [\mathcal{M}(k)]\,(U^0) \ .$$

Diagram before 6.9.15.

$$0 \longrightarrow \mathcal{O}_{\mathbb{P}}(-d) \longrightarrow \mathcal{O}_{\mathbb{P}} \longrightarrow i_*\mathcal{O}_X \longrightarrow 0$$

Diagram 6.9.15.

$$0 \longrightarrow \mathcal{O}_{\mathbb{P}}(k-d) \longrightarrow \mathcal{O}_{\mathbb{P}}(k) \longrightarrow i_*\mathcal{O}_X(k) \longrightarrow 0$$

Diagram 6.9.17.

$$0 \longrightarrow \mathcal{M}(d-1) \longrightarrow \mathcal{M}(d) \longrightarrow i_*\mathcal{O}_X(d) \otimes \mathcal{M} \longrightarrow 0 \ .$$

Diagram 6.9.20.

$$\mathcal{O}_X^k \xrightarrow{m} \mathcal{M}$$

Diagram 6.9.21.

$$\mathcal{O}(-d)^0 \xrightarrow{x_0^{-d}} \mathcal{O}^0 \xrightarrow{m_0} \mathcal{M}^0 \ .$$