Structural evolution of the contact between two Penninic nappes (Zermatt-Saas zone and Combin zone, Western Alps) and implications for the exhumation mechanism and palaeogeography

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Unfortunately, two of the figures were not reproduced correctly. In Fig. 2, some of the labellings were missing (labellings “Monte Rosa”, “Camughera-Moncucco”,

“Mt. Mary”, “Dent Blanche”, “St. Bernard”, “Simplon Line”, and “Dent Blanche basal thrust”). In Fig. 11, the pattern of one of the units (“Sesia-type basement slivers”) was not correctly reproduced. The correct figures can be found in the following pages.

Fig. 2 Cross section through the Swiss–Italian Western Alps, modified after Escher et al. (1993). Second-order nappe boundaries are drawn within the St Bernard nappe system, the Sesia–Dent Blanche nappe system and the Camughera–Moncucco unit in order to highlight internal structures. Traces of major fold axial planes are marked according to the relative ages of the folds by white (post- D_3), light grey (D_3), dark grey (D_2) and black (D_1) triangles. For legend see Figs. 1 and 3

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Fig. 11 Sketch of the tectonic evolution of the western Penninic Alps during D_1 . **a** In a first stage of out-of-sequence thrusting, the Combin zone and overlying South Alpine basement are thrust over the other Penninic nappes below along the Combin thrust. The Cimes Blanches nappe is emplaced onto the Zermatt-Saas nappe and the St Bernard nappe system, where it largely substitutes the original sedimentary cover. Exhumation of the Zermatt-Saas zone was accommodated by normal faulting between the Sesia-Dent Blanche nappe system and the Zermatt-Saas zone and by thrusting between the latter and the Monte Rosa nappe. These movements, which may either be seen as

extrusion of the Zermatt-Saas zone or descent of the Sesia-Dent Blanche nappe system, largely predated activity along the Combin thrust. **b** In a second stage of out-of-sequence thrusting the Sesia-Dent Blanche nappe system is thrust onto the Combin zone along the Dent Blanche basal thrust. Two smaller out-of-sequence thrusts in lower levels of the nappe pile lead to the emplacement of the Zermatt-Saas nappe onto the St Bernard nappe system and thrusting of the Monte Rosa nappe onto the North Penninic ophiolites (later Antrona unit). The resulting geometry is a simplified version of the restored post- D_1 cross section of Fig. 10a