Changing the unit of time to two hundred and fifty years, the equations (*a*) (*b*) and (*c*) give the following values of the derivatives of ε_1 and ψ:

	$D_\tau \varepsilon$		$D_\tau \psi$	
Zero-epoch.	−250 Y	+250 Y	−250 Y	+250 Y
	″	″	″	″
1600	− 1.4636	+ 0.7400	12600.33	12573.65
1850	− 1.1768	+ 0.4527	12603.44	12576.65
2100	− 0.8898	+ 0.1665	12606.57	12579.71

At the respective epochs $D_\tau \varepsilon_1$ vanishes, and $D_\tau \psi$ has the values of the lunisolar precession in longitude (§ 100).

Developing in powers of τ we have the following results:

Zero-epoch.		°	′	″	″	″
1600;	$\varepsilon_1 =$	23	29	28.69	$+ 0.5509\,\tau^2$	$- 0.1206\,\tau^3$
1850;	$\varepsilon_1 =$	23	27	31.68	$+ 0.4074$	$- 0.1207$
2100;	$\varepsilon_1 =$	23	25	34.56	$+ 0.2641$	$- 0.1206$

		″	″
1600;	$\psi =$	$12587.00\,\tau$	$- 6.67\,\tau^2$
1850;	$\psi =$	12590.05	$- 6.70$
2100;	$\psi =$	12593.14	$- 6.72$

		″	″
1600;	$\lambda =$	$45.28\,\tau$	$- 14.83\,\tau^2$
1850;	$\lambda =$	33.52	$- 14.86$
2100;	$\lambda =$	21.75	$- 14.88$

These values of ε_1 and ψ completely fix the position of the equator at the time τ relative to the zero ecliptic and equinox. For the reduction of coordinates from one epoch to another we must express the position of the equator at the time τ. We consider the triangle $P E_0 P_0$, of which the sides and opposite angles are designated

Sides,	ε_0	ε_1	θ
Opposite angles,	$90° - \zeta$	$90° - \zeta_1$	ψ

If, in the Gaussian relations between the parts of this triangle, we put

$$\sin \tfrac{1}{2} (\varepsilon_1 - \varepsilon_0) = \tfrac{1}{2} (\varepsilon_1 - \varepsilon_0) = \tfrac{1}{2} \Delta \varepsilon$$