$$
\begin{array}{ccc}
X^n \oplus X^{n-1} & \xrightarrow{f^n \circ (1,d)} & M^n \\
\Big\downarrow{\scriptstyle \left(\begin{smallmatrix} 0 & 0 \\ 1 & 0 \end{smallmatrix}\right)} & & \Big\downarrow{\scriptstyle d} \\
X^{n+1} \oplus X^n & \xrightarrow{f^{n+1} \circ (1,d)} & M^{n+1}
\end{array}
\qquad
\begin{array}{ccc}
X^n & \xrightarrow{f^n} & M^n \\
\Big\downarrow & & \Big\downarrow \\
X^{n+1} & \xrightarrow{f^{n+1}} & M^{n+1}
\end{array}
$$

$$
F(X) \longrightarrow (M,d)
\qquad
X \longrightarrow G(M,d)
$$