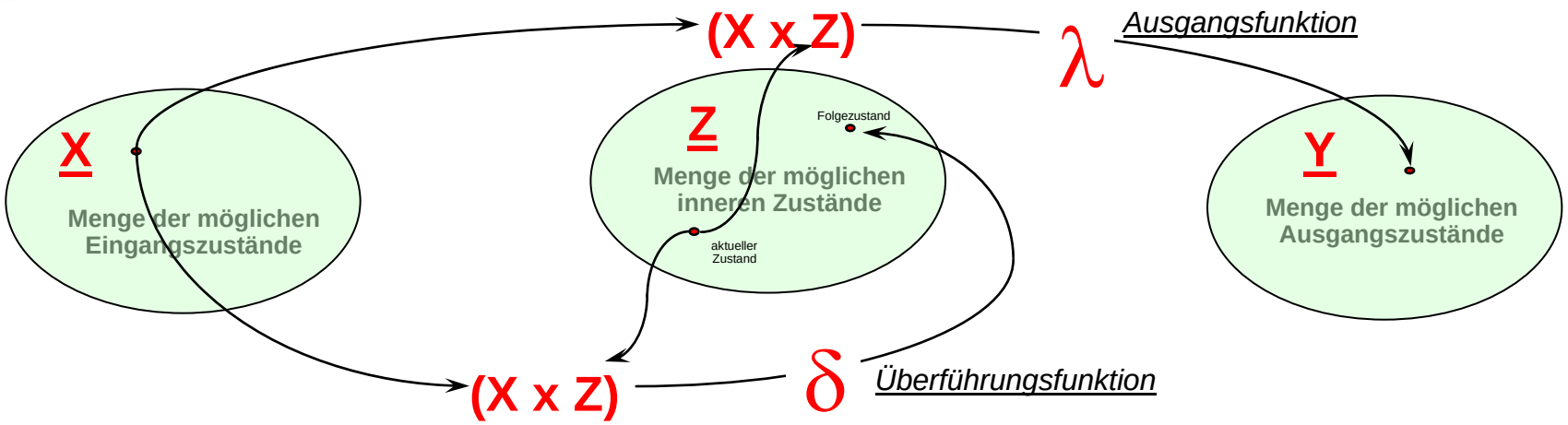
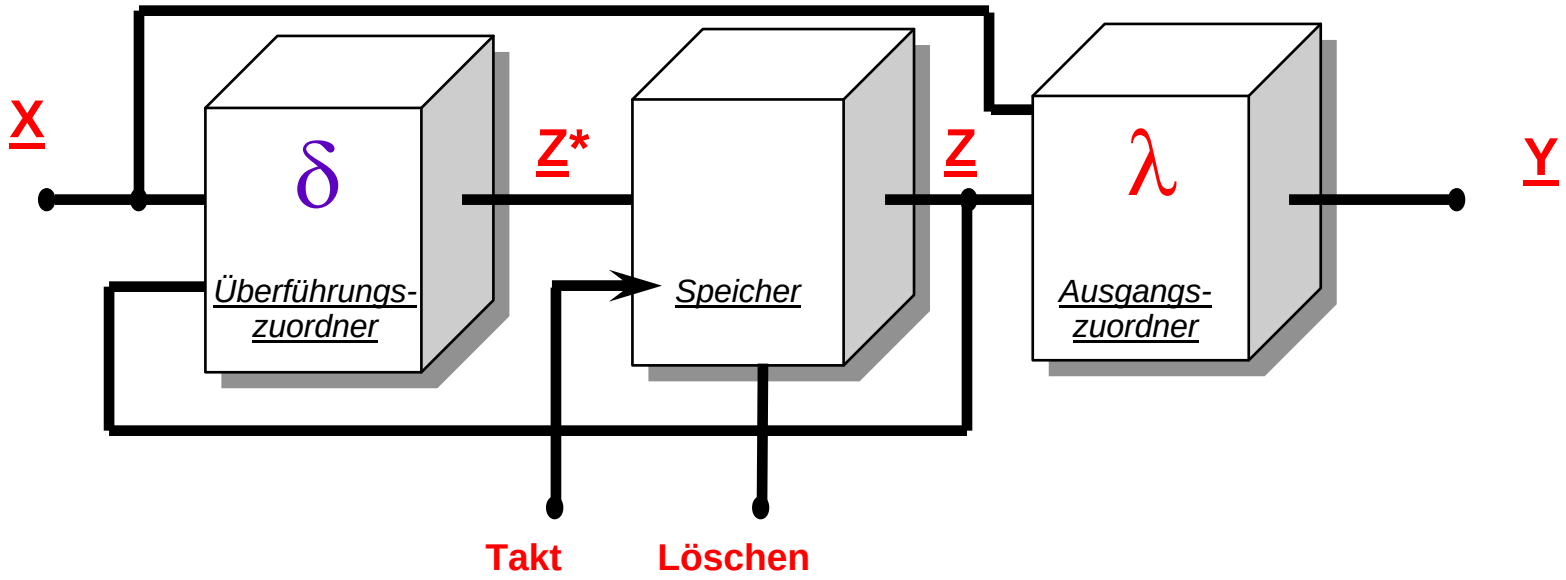
# Das Automatenmodell

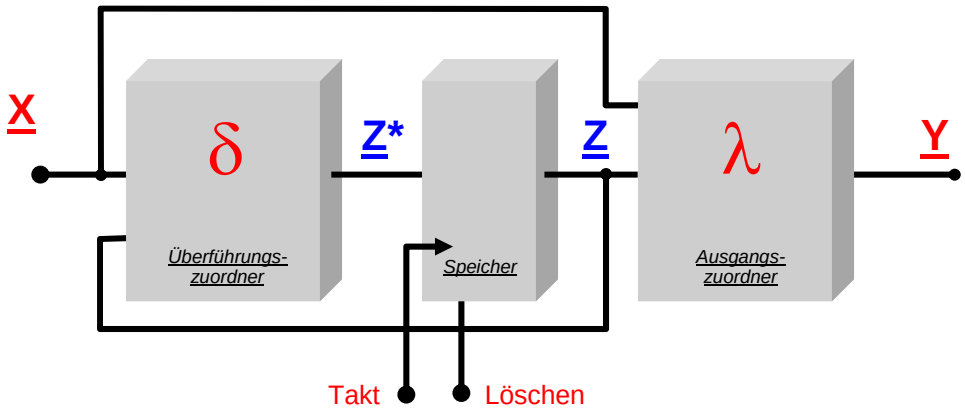


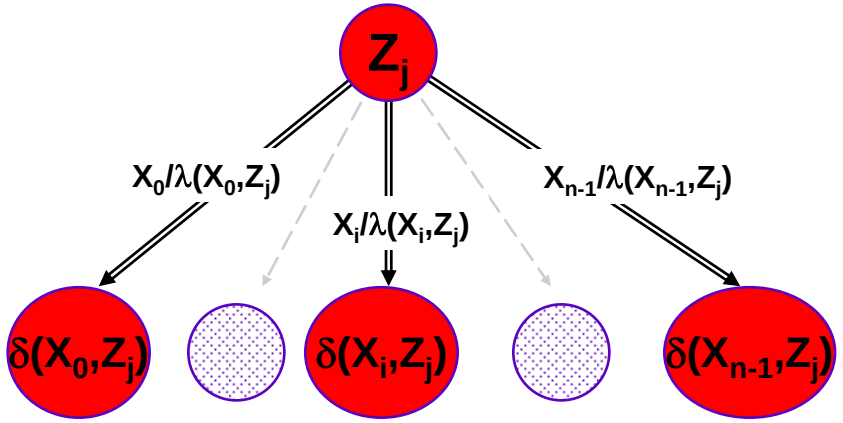
# Mealyautomat

**Typ 5**

$$A=A(X,Z,Y,\delta,\lambda)$$




| δ | $X_0$ | . | . | $X_i$ | . | . | $X_{n-1}$ |
|---|---|---|---|---|---|---|---|
| $Z_0$ | | | | . | | | |
| $Z_1$ | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_j$ | . | . | . | $\delta(x_i,Z_j)$ | . | . | . |
| . | | | | . | | | |
| . | | | | | | | |
| . | | | | . | | | |
| $Z_{o-1}$ | | | | . | | | |



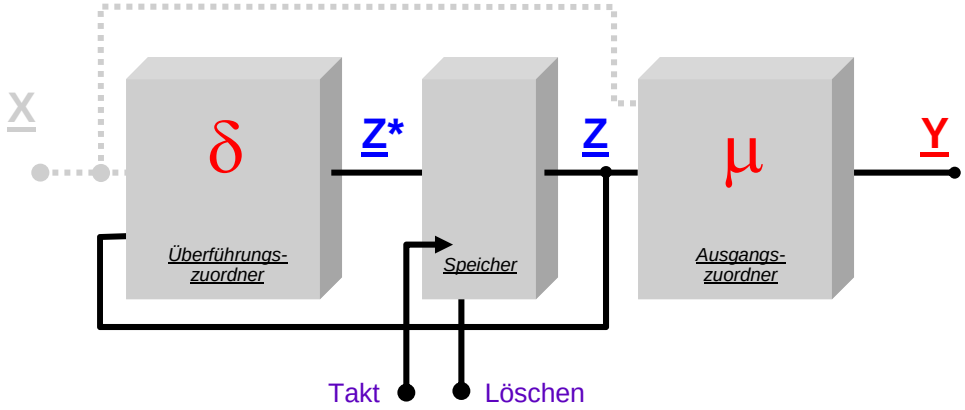

**Änderungen an X werden an Y direkt wirksam ! Eine aktive Schaltflanke an Takt ist keine Vor-aussetzung für eine Ausgangsänderung.**

| λ | $X_0$ | . | . | $X_i$ | . | . | $X_{n-1}$ |
|---|---|---|---|---|---|---|---|
| $Z_0$ | | | | . | | | |
| $Z_1$ | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_j$ | . | . | . | $\lambda(X_i,Z_j)$ | . | . | . |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_{o-1}$ | | | | . | | | |

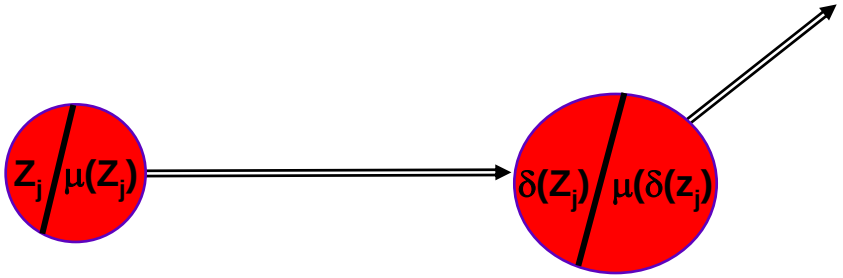
# Eingangsloser Automat

**Typ 4**

$$A=A(\underline{Z},\underline{Y},\delta,\mu)$$




| δ | | | | | | | |
|---|---|---|---|---|---|---|---|
| $Z_0$ | | | | . | | | |
| $Z_1$ | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_j$ | $\delta(Z_j)$ | . | . | . | . | . | . |
| . | | | | . | | | |
| . | | | | | | | |
| . | | | | . | | | |
| $Z_{o-1}$ | | | | . | | | |



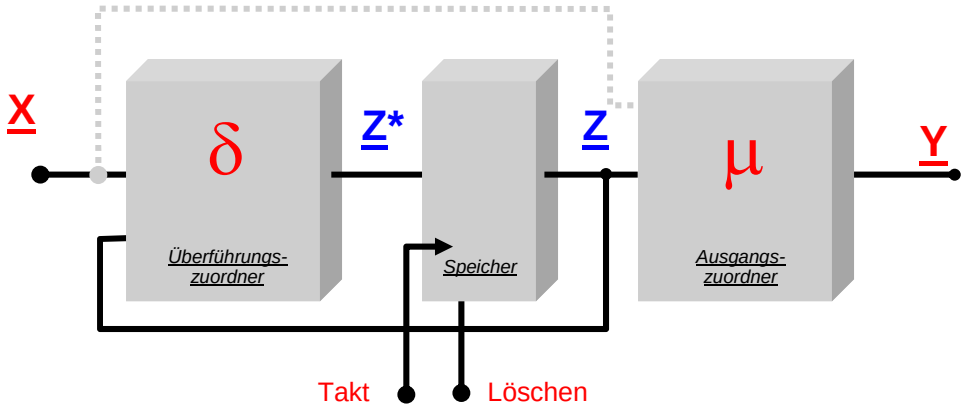

| μ | | | | | | | |
|---|---|---|---|---|---|---|---|
| $Z_0$ | | | | . | | | |
| $Z_1$ | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_j$ | $\mu(Z_j)$ | . | . | . | . | . | . |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_{o-1}$ | | | | . | | | |

**Der Eingang ist konstant (nicht vorhanden).**
**Der Automat ist ein Generator. Das Zeitregime wird von den Schaltflanken des Taktes vorgegeben.**

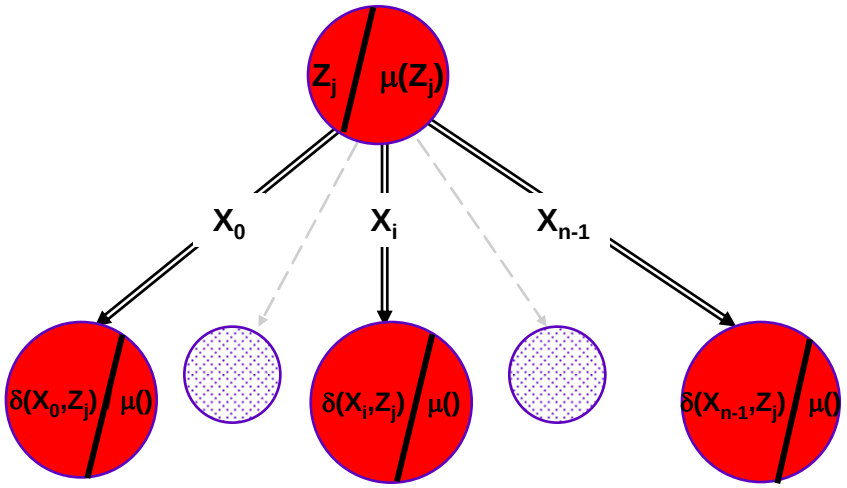
# Mooreautomat

**Typ 3**

$$A = A(X, Z, Y, \delta, \mu)$$




| δ | $X_0$ | . | . | $X_i$ | . | . | $X_{n-1}$ |
|---|---|---|---|---|---|---|---|
| $Z_0$ | | | | . | | | |
| $Z_1$ | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_j$ | . | . | . | $\delta(x_i, Z_j)$ | . | . | . |
| . | | | | . | | | |
| . | | | | | | | |
| . | | | | . | | | |
| $Z_{o-1}$ | | | | . | | | |

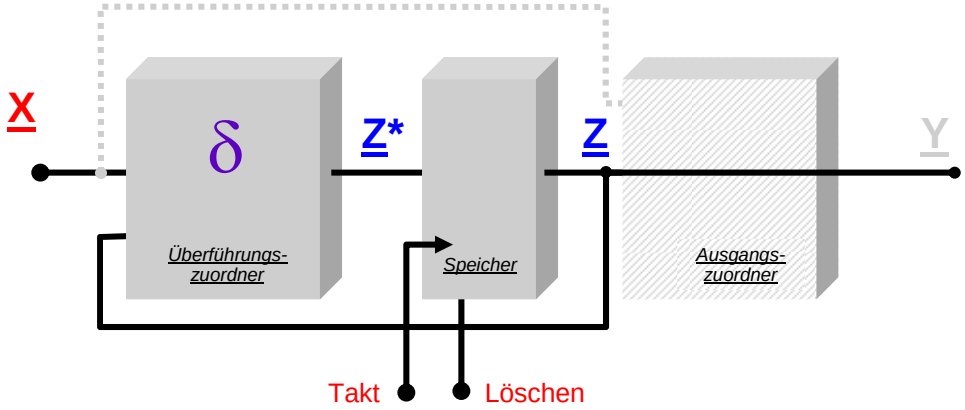



| μ | | | | | | | |
|---|---|---|---|---|---|---|---|
| $Z_0$ | | | | . | | | |
| $Z_1$ | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_j$ | $\mu(Z_j)$ | . | . | . | . | . | . |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_{o-1}$ | | | | . | | | |

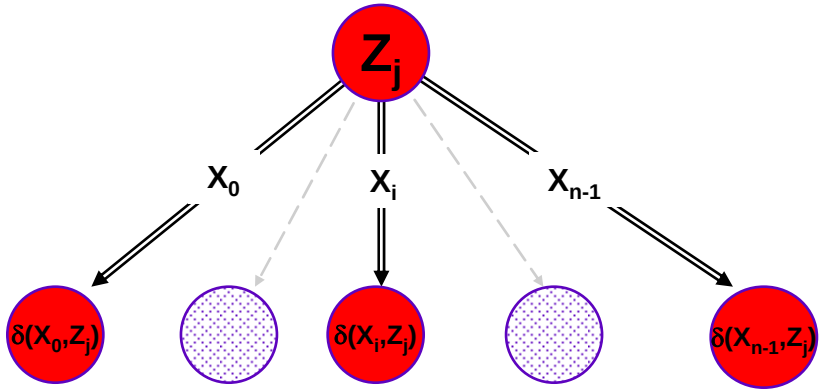
# Medwedjewautomat

**Typ 2**

$$A=A(X,Z,\delta)$$




| δ | $X_0$ | . | . | $X_i$ | . | . | $X_{n-1}$ |
|---|---|---|---|---|---|---|---|
| $Z_0$ | | | | . | | | |
| $Z_1$ | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_j$ | . | . | . | $\delta(x_i,Z_j)$ | . | . | . |
| . | | | | . | | | |
| . | | | | | | | |
| . | | | | . | | | |
| $Z_{o-1}$ | | | | . | | | |

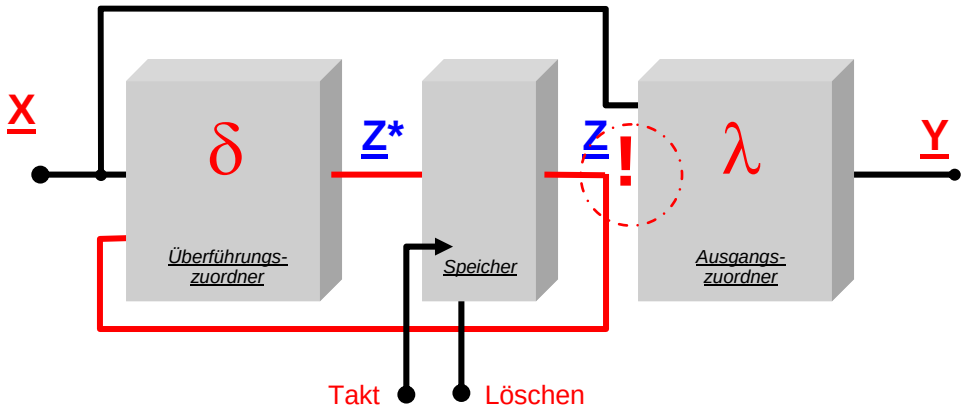



| λ | $X_0$ | . | . | $X_i$ | . | . | $X_{n-1}$ |
|---|---|---|---|---|---|---|---|
| $Z_0$ | | | | . | | | |
| $Z_1$ | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_j$ | . | . | . | $\lambda(X_i,Z_j)$ | . | . | . |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_{o-1}$ | | | | . | | | |

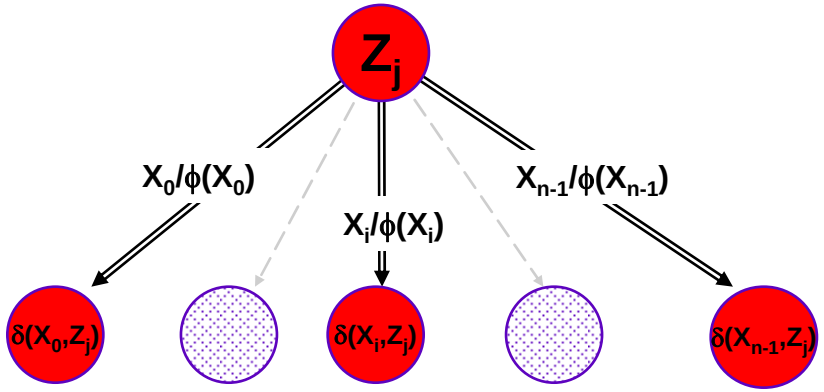
# Logischer Zuordner

**Typ 1**

$$A=A(X,Z,Y,\delta,\phi)$$




| δ | $X_0$ | . | . | $X_i$ | . | . | $X_{n-1}$ |
|---|---|---|---|---|---|---|---|
| $Z_0$ | | | | | | | |
| $Z_1$ | | | | | | | |
| . | | | | | | | |
| . | | | | | | | |
| . | | | | | | | |
| $Z_j$ | | | | | | | |
| . | | | | | | | |
| . | | | | | | | |
| . | | | | | | | |
| $Z_{o-1}$ | | | | | | | |




| ϕ | $X_0$ | . | . | $X_i$ | . | . | $X_{n-1}$ |
|---|---|---|---|---|---|---|---|
| $Z_0$ | $\phi(X_0)$ | . | . | $\phi(X_i)$ | . | . | $\phi(X_{n-1})$ |
| $Z_1$ | $\phi(X_0)$ | . | . | $\phi(X_i)$ | . | . | $\phi(X_{n-1})$ |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_j$ | $\phi(X_0)$ | . | . | $\phi(X_i)$ | . | . | $\phi(X_{n-1})$ |
| . | | | | . | | | |
| . | | | | . | | | |
| . | | | | . | | | |
| $Z_{o-1}$ | $\phi(X_0)$ | . | . | $\phi(X_i)$ | . | . | $\phi(X_{n-1})$ |