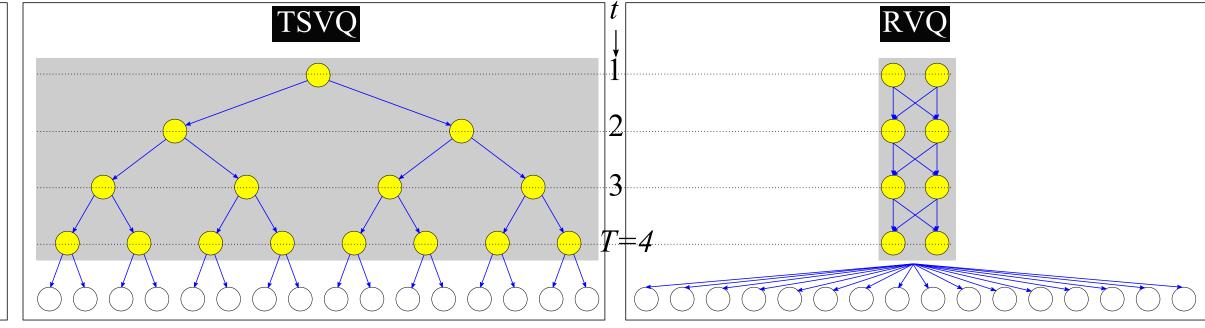


ESVQ



	ESVQ	TSVQ	RVQ
# data points	N	same	same
Vertical dimension, $P$	_	depth	# stages
Horizontal dimension, M	_	breadth	# templates
Encoding indeces	_	path map	p-tuple
Input dimension	D	same	same
Total codevectors, $K$	$2^{rD}$	$2^{rD} = M^P$	same as TSVQ
Rate, $r$ (bits/vector component)	$(\log_2 K)/D$	same	same
# total vectors (test+terminal)	$2^{rD}$	$MN_n = M \frac{M^P - 1}{M - 1} \approx \frac{M}{M - 1} M^P$	$MP + M^P \approx M^P$
# non-terminal nodes, $N_n$	0	$\frac{M^P-1}{M-1}$	MP
computations: search ops/stage	1 stage, $O(2^{rD})$	M extra storage (worse case: binary)	same as TSVQ
computations: search complexity	$O(2^{rD})$	O(MP)	same as TSVQ
memory	$2^{rk}$	$MN_n = M \frac{M^P - 1}{M - 1} \approx \frac{M}{M - 1} M^P$	MP
# Input data at stage $p$	1  stage, N	data starvation $\frac{N}{M^p}$	N