

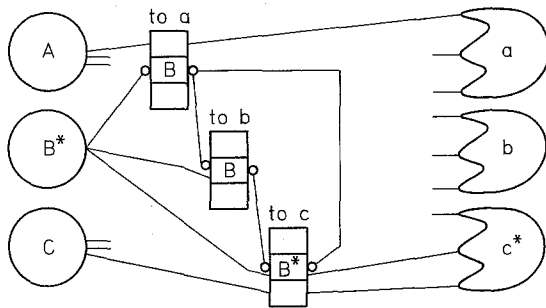
Erratum

Dynamic Connections in Neural Networks

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Inter-unit

	One-end	Dual	Block	—
Idle	Low	High	Blocked	
Low	High	High	Blocked	Idle
High	(Low)		×	Low
Blocked		×		Idle

End-unit

	Start	From inter	—
Idle	Low	Low	
Low	High	High	Idle
High		(Low)	Low

Fig. 4. State and output tables for dynamic connections

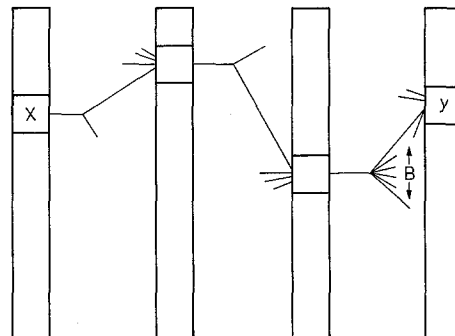
On p. 28, second column, the second formula should be $v \leftarrow$ if $p > 0 \dots$ On p. 30, next to last sentence in the last full paragraph, the final "B" should be "not B". On p. 33, the formula in the first column should read

$$\bar{P} = (1 - F)^{B^k}$$

On p. 35, the formula $v \leftarrow 2p$ should be $v \leftarrow 0.2p$. Also on p. 36 there is a long formula. The first bracket after the equals is empty. It should be

$$\binom{d}{k}$$

which is read "d choose k" and is the number of different combinations of k choices from a total of d alternatives.



$$\bar{P} = (1 - F)^{B^k}$$

\bar{P} = Probability that there is no link from X to y

N = Number of Units in a "Layer"

B = Number of Randomly Outgoing Branches/Unit $\approx \sqrt{N}$

F = B/N (Branching Factor)

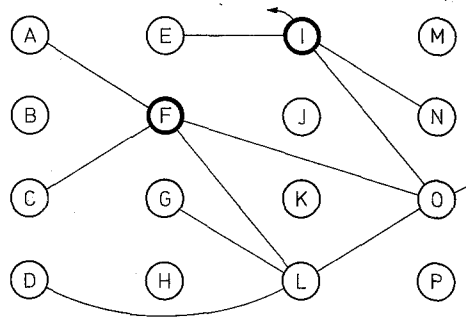
K = Number of Intermediate Levels (2 in diagram above)

\bar{P} for B=1000; different numbers of levels and units

N =	10 ⁶	10 ⁷	10 ⁸
K = 0	0.999	0.9999	0.99999
1	0.367	0.905	0.989
2	10 ⁻⁴⁴⁰	10 ⁻⁴⁴	10 ⁻⁵

Fig. 7. Making a connection

Random networks: N nodes each connected to \sqrt{N} others



Assume $v = 0.2^*$ potential; decay is 2

T=0	F	I	G	L	O	A	N	...
1	10	10	0	0	0	0	0	0
2	10	10	0	2	4	2	2	
3	10	10	0	2.8	6	2	2	
4	10	10	1	4	8.6	2	2	
5	10	10	1	6.3	10	2	2	

Fig. 8. Random chunking network