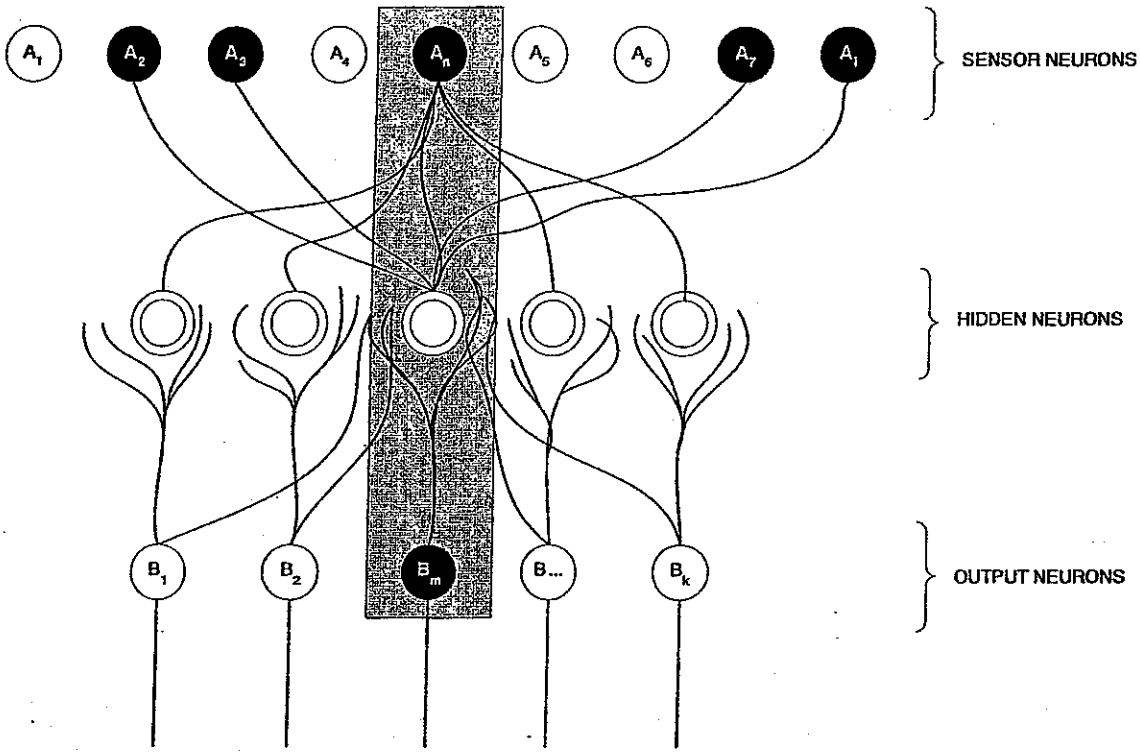

A1
A2
A3
A4
An
A5
A6
A7
Ai
SENSOR NEURONS
HIDDEN NEURONS
B1
B2
Bm
B...
Bk
OUTPUT NEURONS

Figure 1

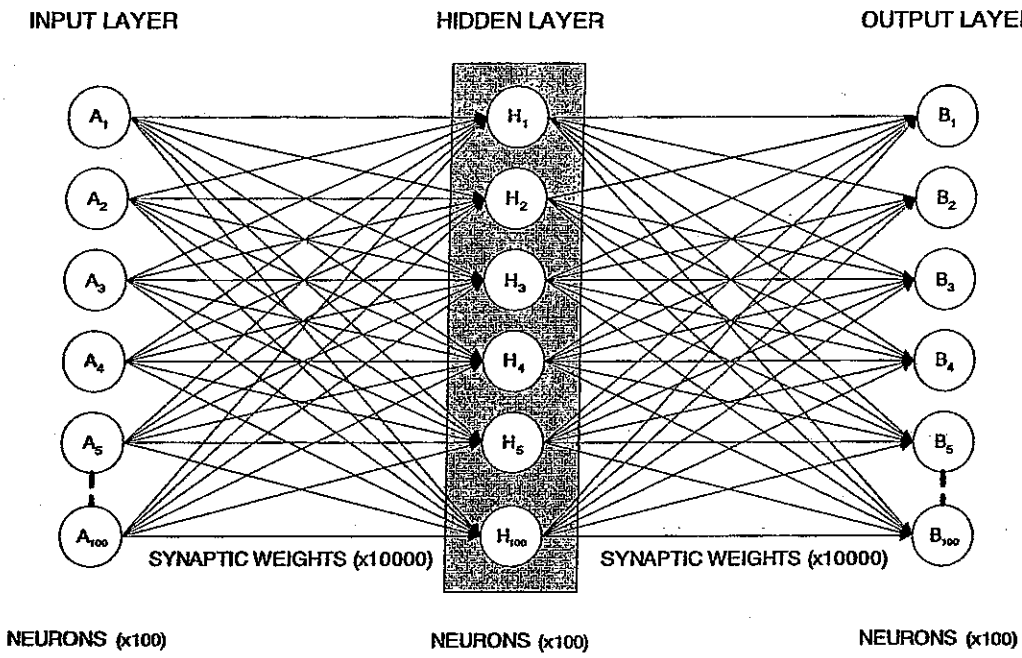

INPUT LAYER
HIDDEN LAYER
OUTPUT LAYER
A1
A2
A3
A4
A5
A100
H1
H2
H3
H4
H5
H100
B1
B2
B3
B4
B5
B100
SYNAPTIC WEIGHTS (x10000)
SYNAPTIC WEIGHTS (x10000)
NEURONS (x100)
NEURONS (x100)
NEURONS (x100)

Figure 2

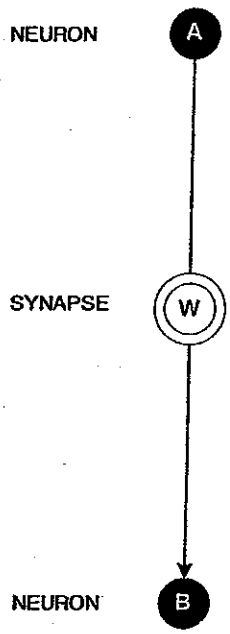


Figure 3

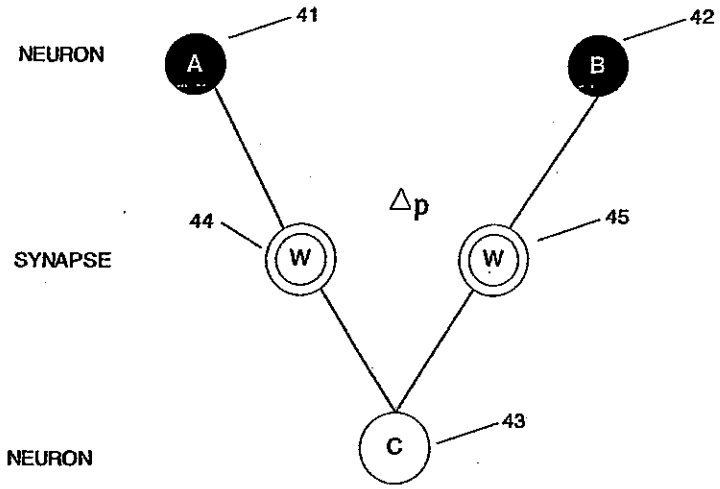


Figure 4

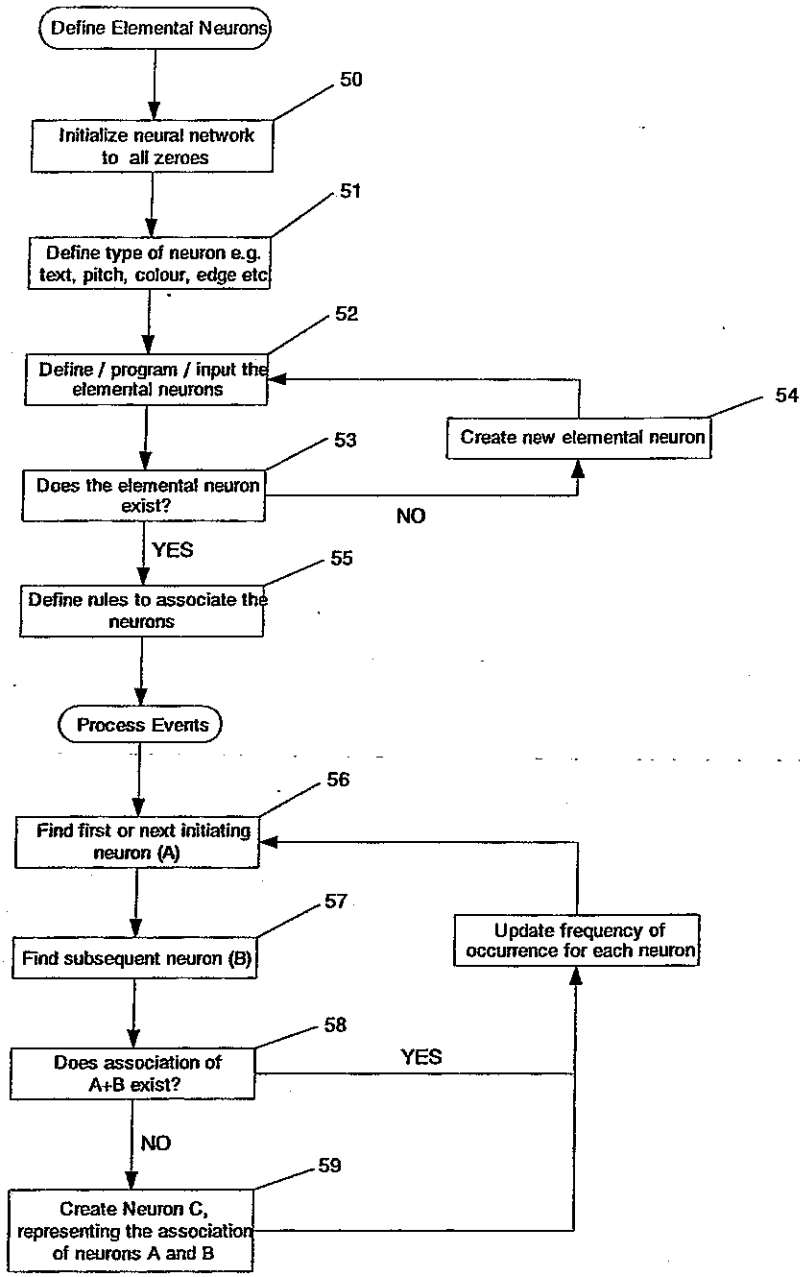

Define Elemental Neurons
50
Initialize neural network to all zeroes
51
Define type of neuron e.g. text, pitch, colour, edge etc
52
Define / program / input the elemental neurons
54
Create new elemental neuron
53
Does the elemental neuron exist?
NO
YES
55
Define rules to associate the neurons
Process Events
56
Find first or next initiating neuron (A)
57
Find subsequent neuron (B)
Update frequency of occurrence for each neuron
58
Does association of A+B exist?
YES
NO
59
Create Neuron C, representing the association of neurons A and B

Figure 5

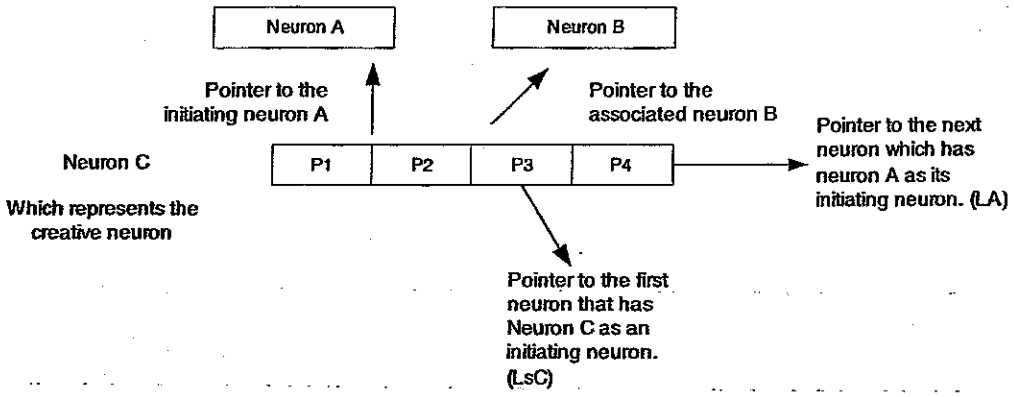

Neuron A
Neuron B
Pointer to the initiating neuron A
Pointer to the associated neuron B
Neuron C
Which represents the creative neuron
P1
P2
P3
P4
Pointer to the next neuron which has neuron A as its initiating neuron. (LA)
Pointer to the first neuron that has Neuron C as an initiating neuron. (LsC)

Figure 6

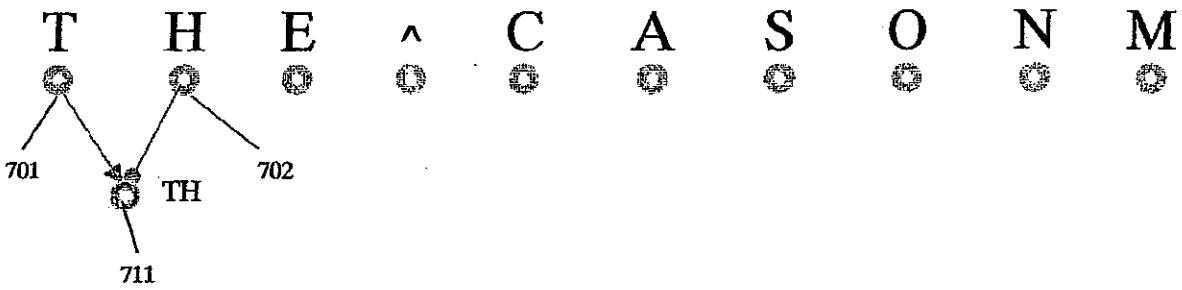


Figure 7(a)

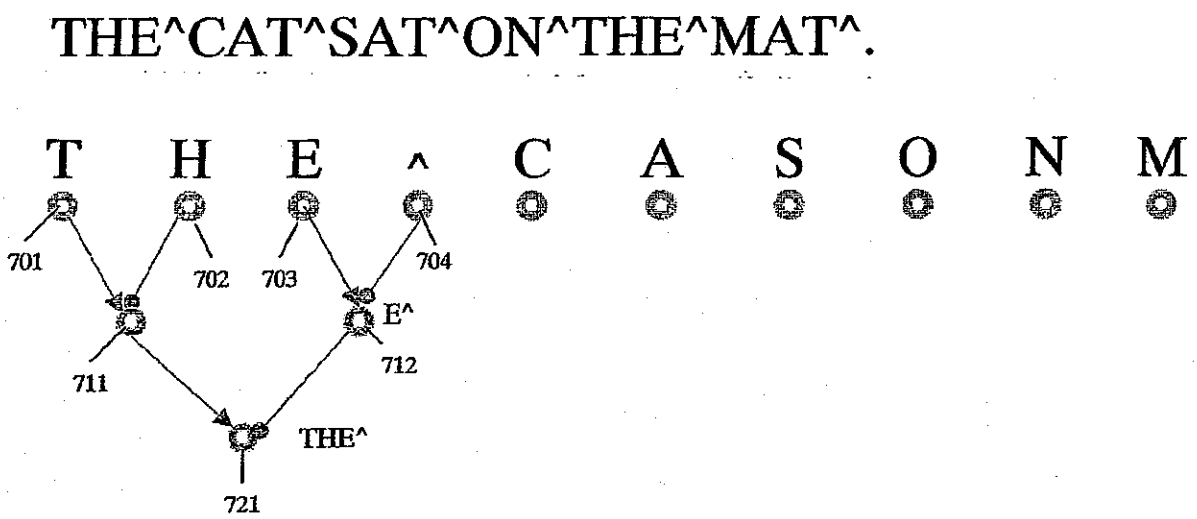


Figure 7(b)

THE^CAT^SAT^ON^THE^MAT^.

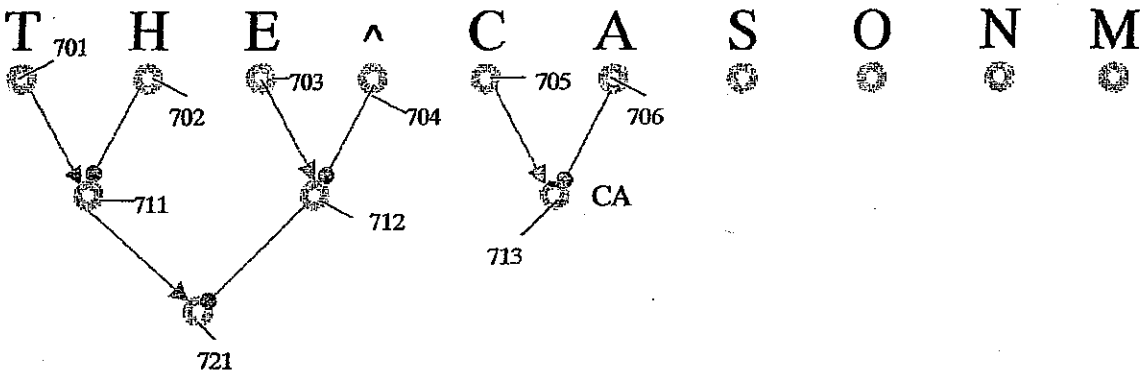


Figure 7(c)

THE^CAT^SAT^ON^THE^MAT^.

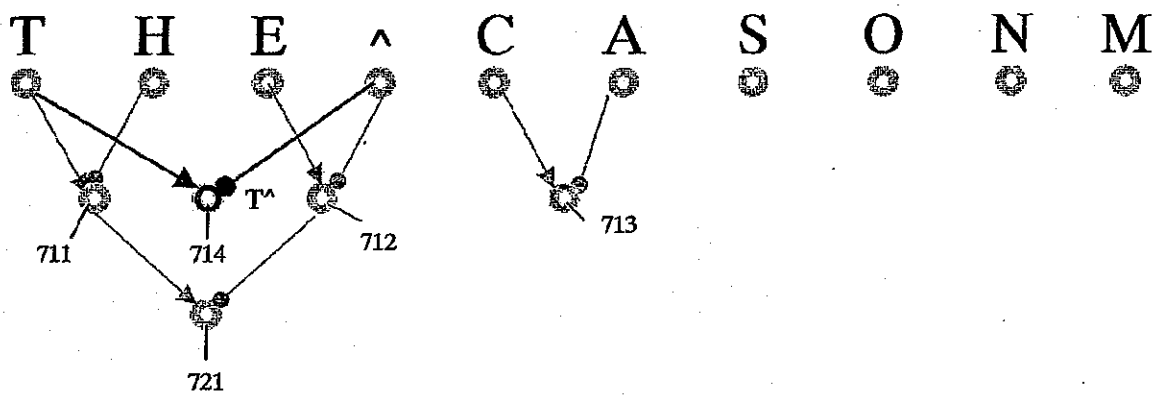


Figure 7(d)

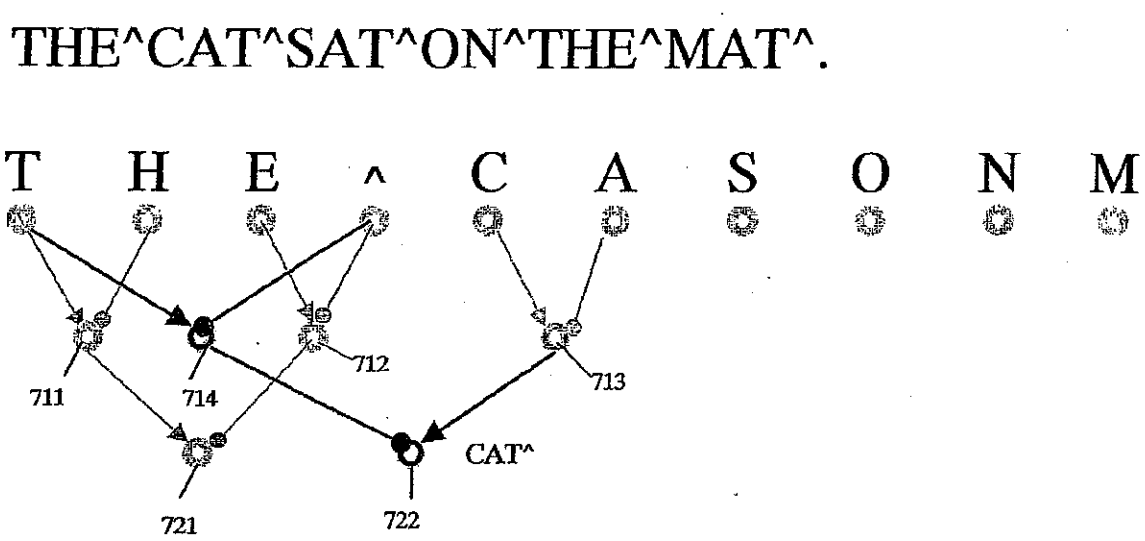


Figure 7(e)

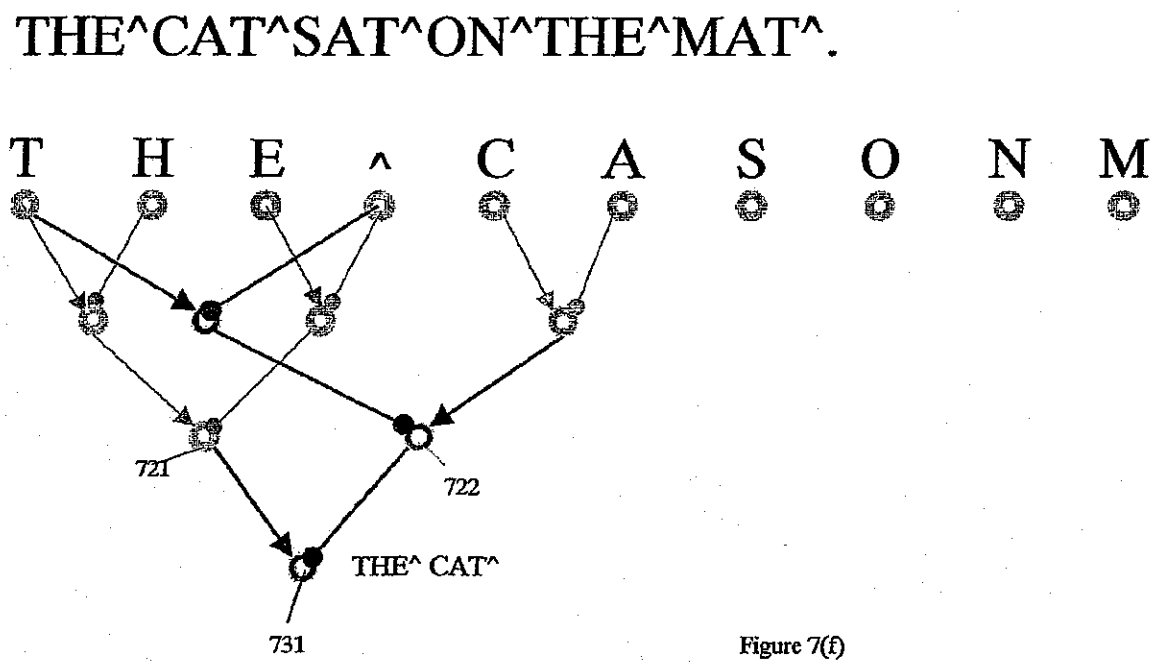


Figure 7(f)

THE^CAT^SAT^ON^THE^MAT^.

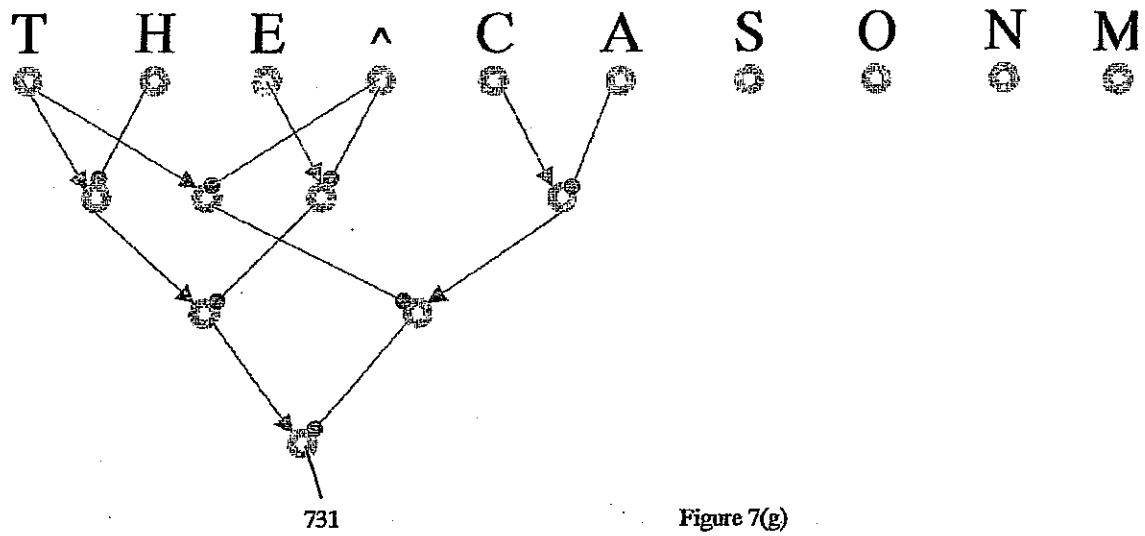


Figure 7(g)

THE^CAT^SAT^ON^THE^MAT^.

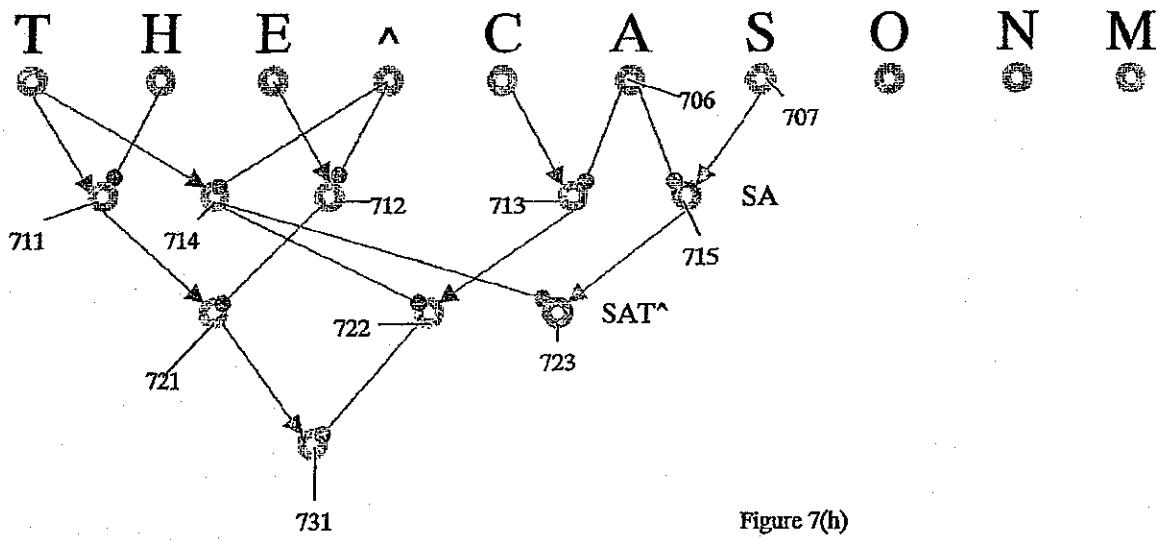


Figure 7(h)

THE^CAT^SAT^ON^THE^MAT^.

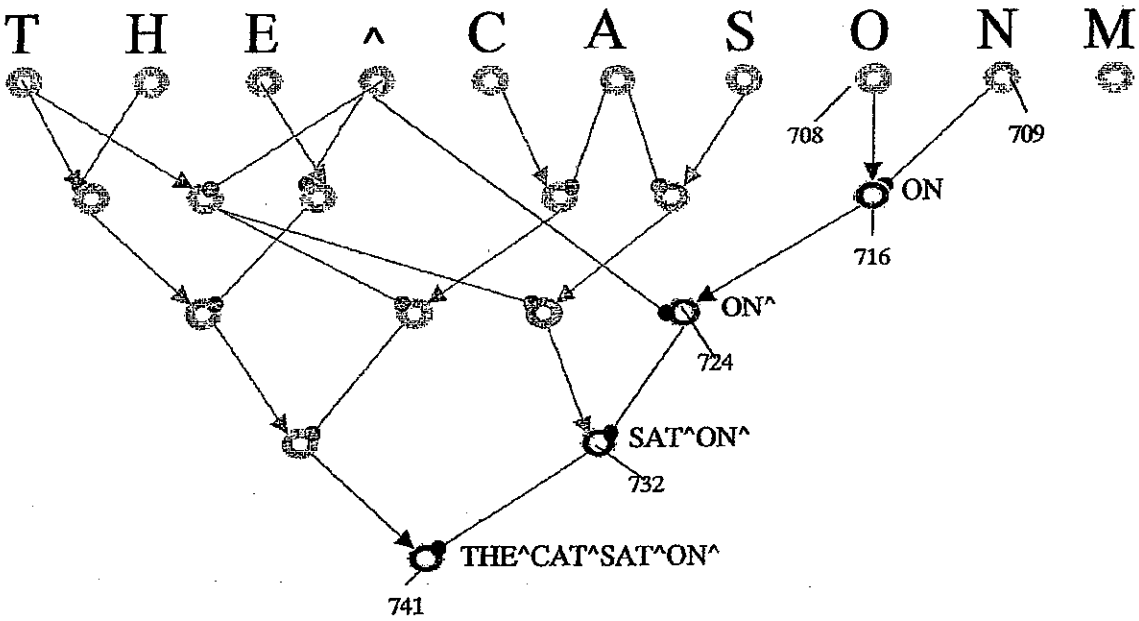


Figure 7(i)

THE^CAT^SAT^ON^THE^MAT^.

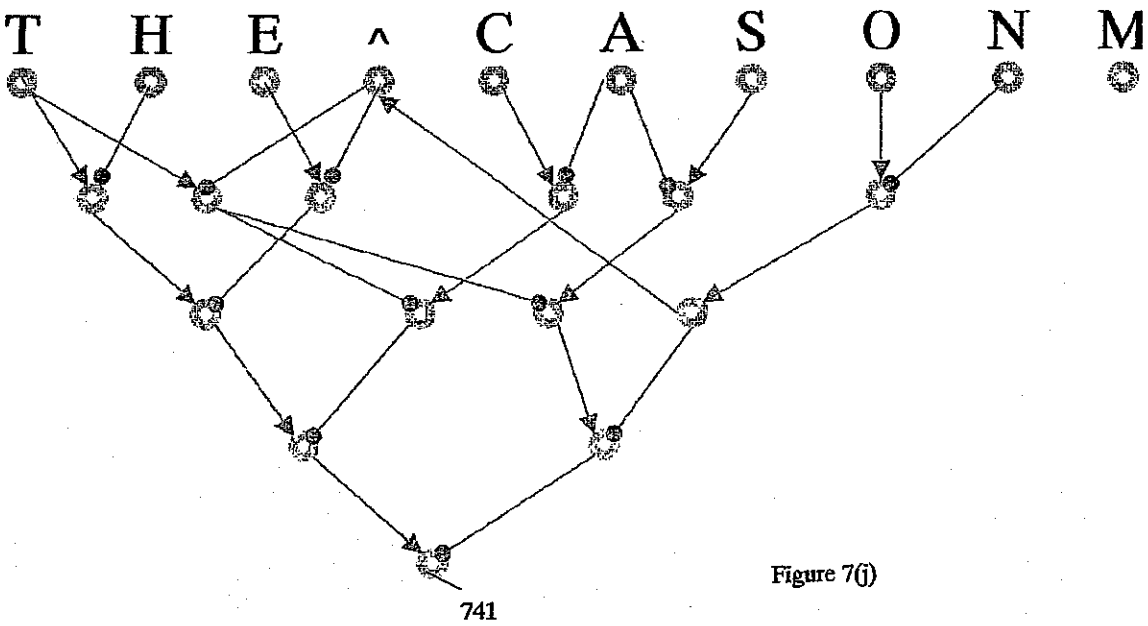


Figure 7(j)

THE^CAT^SAT^ON^THE^MAT^

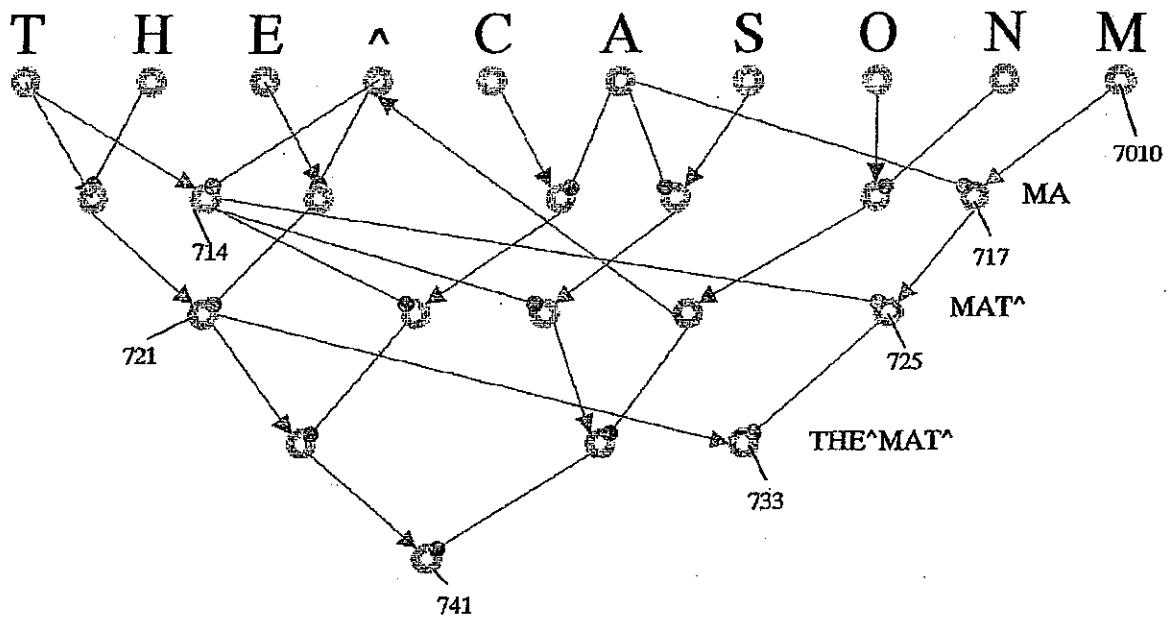


Figure 7(k)

THE^CAT^SAT^ON^THE^MAT^

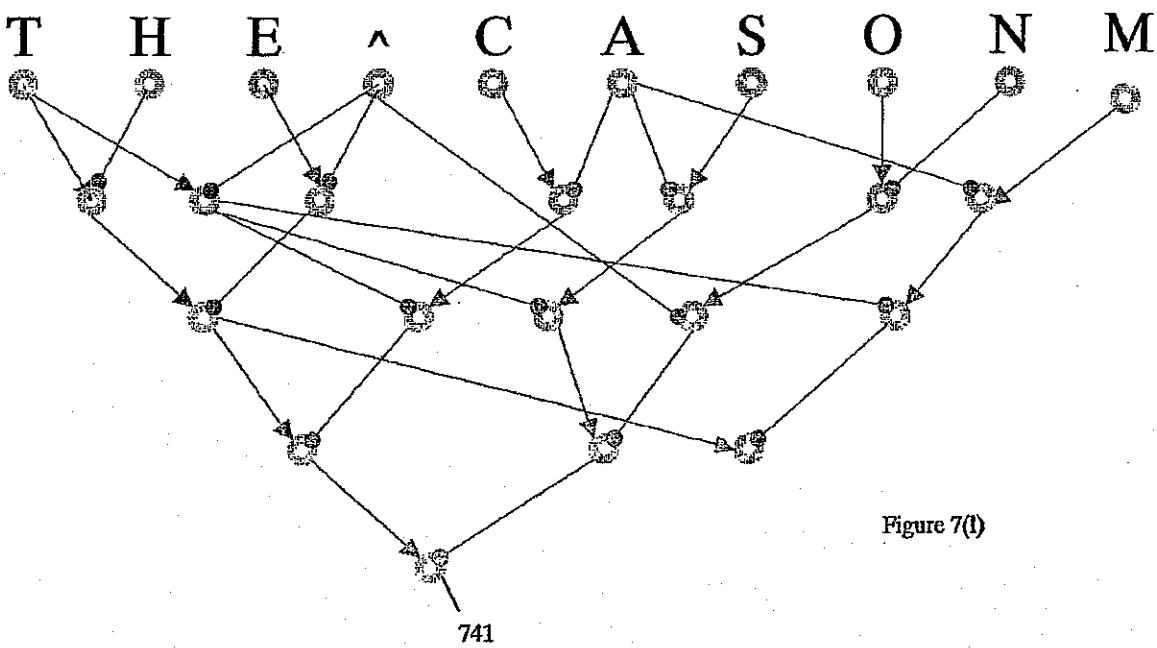


Figure 7(l)

THE^CAT^SAT^ON^THE^MAT^AND^

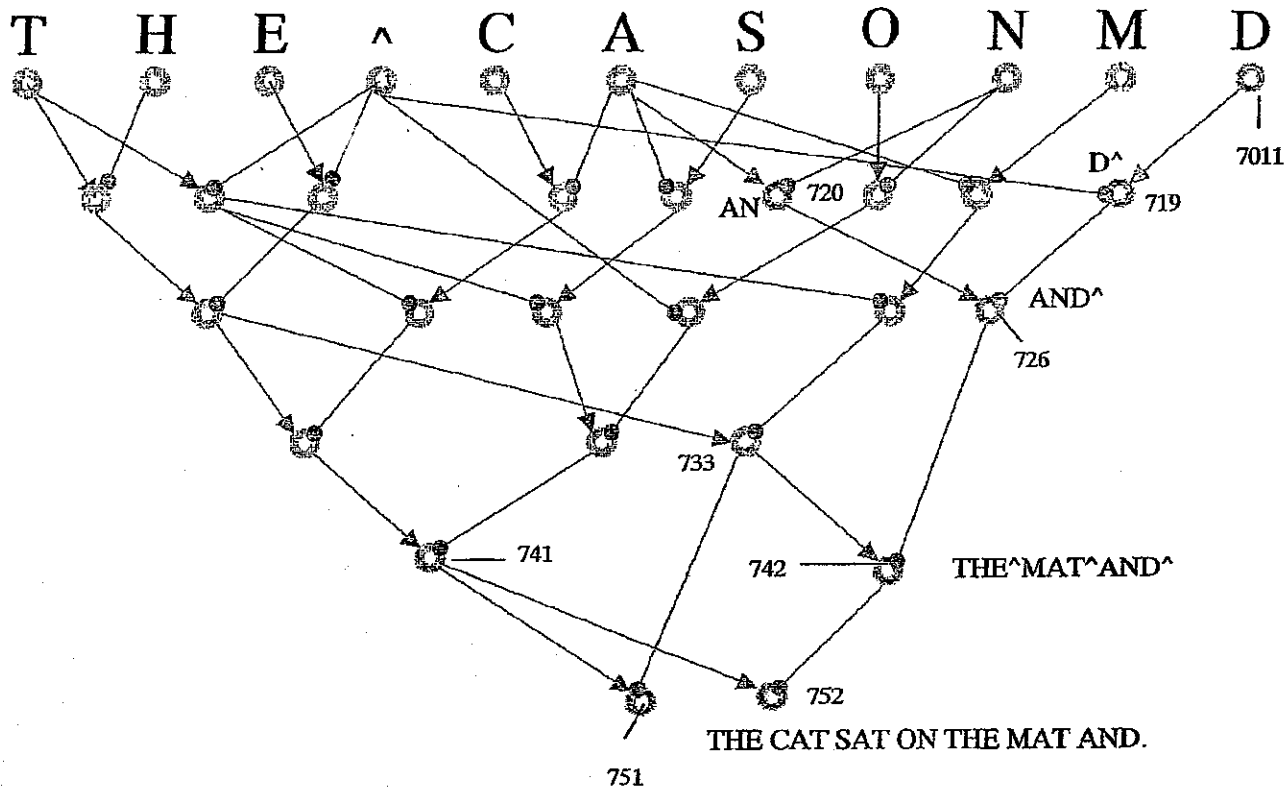


Figure 7(m)

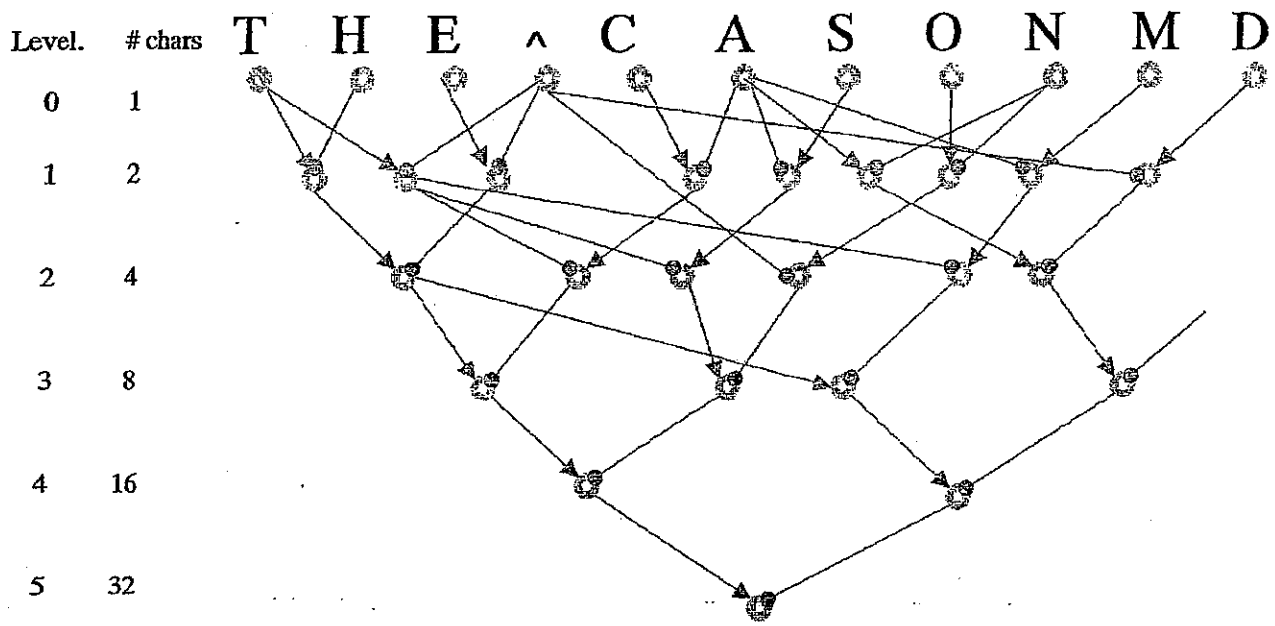

THE^CAT^SAT^ON^THE^MAT^AND^ (27..chars)
Level.
chars
T H E ^ C A S O N M D
0 1
1 2
2 4
3 8
4 16
5 32
10 1,024 chars
20 1,048,576 chars

Figure 7(n)

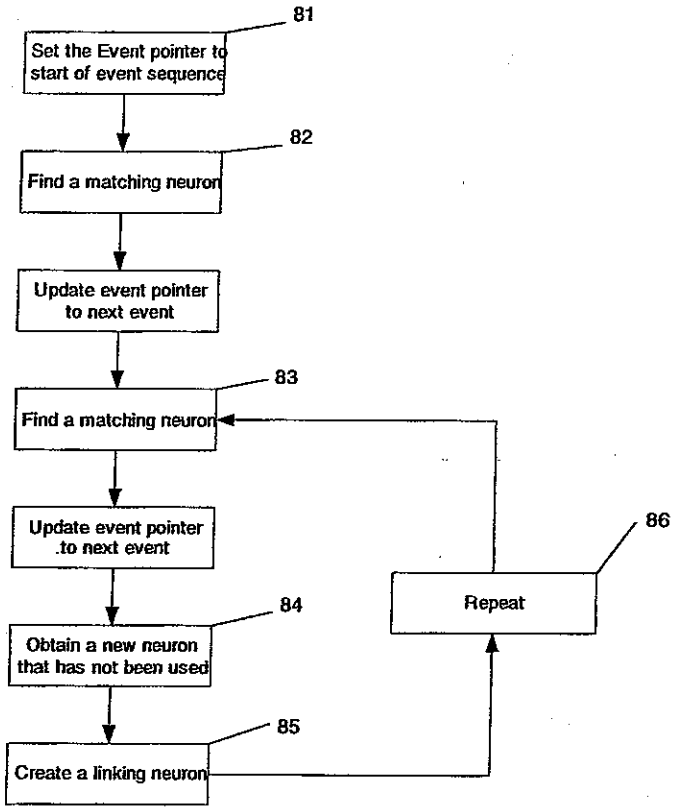

81
Set the Event pointer to start of event sequence
82
Find a matching neuron
Update event pointer to next event
83
Find a matching neuron
Update event pointer .to next event
84
Obtain a new neuron that has not been used
85
Create a linking neuron
86
Repeat

Figure 8

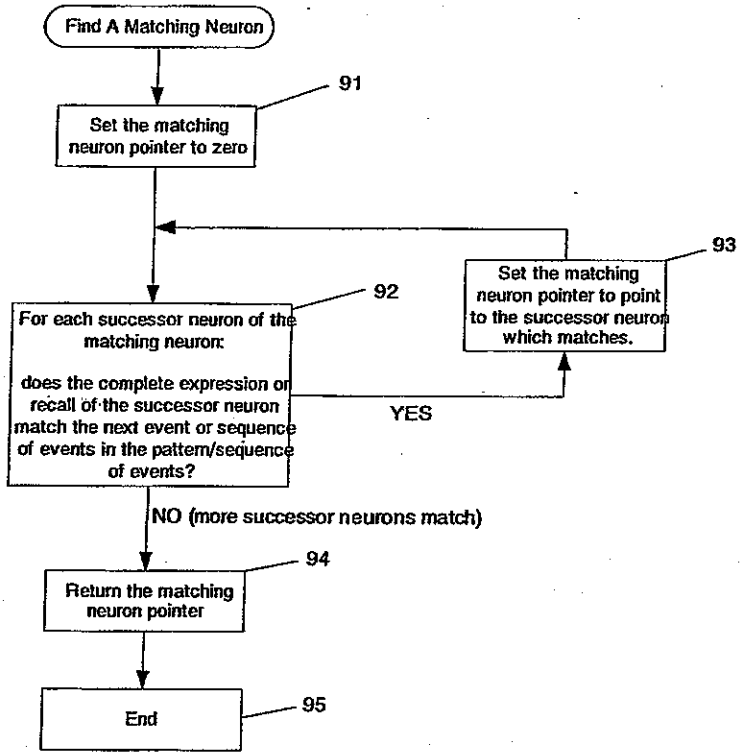

Find A Matching Neuron
91
Set the matching neuron pointer to zero
93
Set the matching neuron pointer to point to the successor neuron which matches.
92
For each successor neuron of the matching neuron:
does the complete expression or recall of the successor neuron match the next event or sequence of events in the pattern/sequence of events?
YES
NO (more successor neurons match)
94
Return the matching neuron pointer
End
95

Figure 9

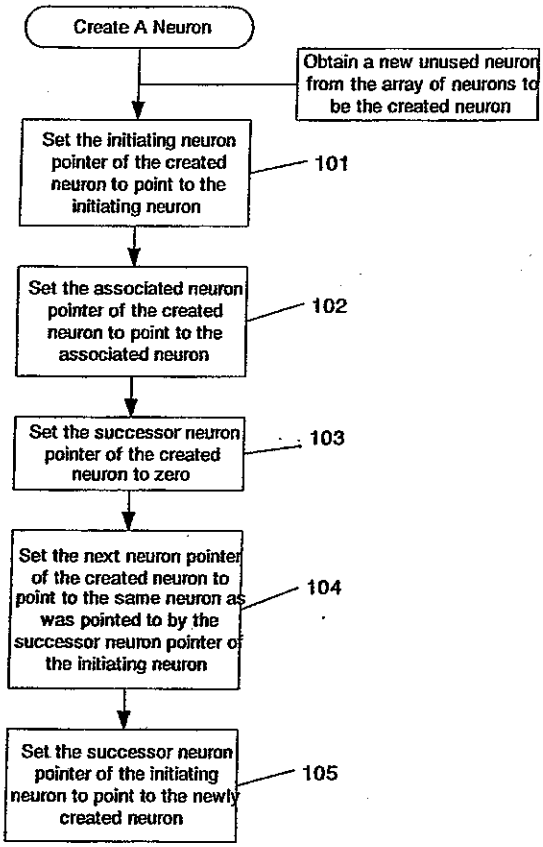

Create A Neuron
Obtain a new unused neuron from the array of neurons to be the created neuron
Set the initiating neuron pointer of the created neuron to point to the initiating neuron
101
Set the associated neuron pointer of the created neuron to point to the associated neuron
102
Set the successor neuron pointer of the created neuron to zero
103
Set the next neuron pointer of the created neuron to point to the same neuron as was pointed to by the successor neuron pointer of the initiating neuron
104
Set the successor neuron pointer of the initiating neuron to point to the newly created neuron
105

Figure 10

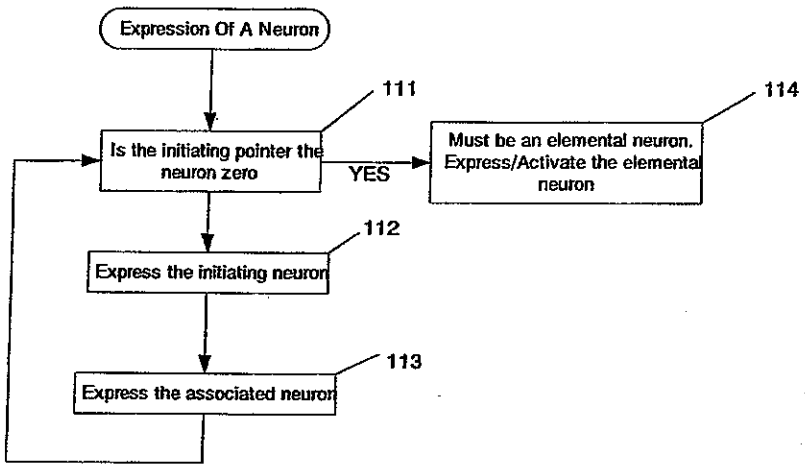

Expression Of A Neuron
111
Is the initiating pointer the neuron zero
YES
114
Must be an elemental neuron. Express/Activate the elemental neuron
112
Express the initiating neuron
113
Express the associated neuron

Figure 11