

<]hnY]b '6Yf`]b. 'K]Y 'k]f 'K]`Xh]YfYb 'VY]'' \$; fUX '\Y`ZYb '_ObbYb ''</pre>



6Yf`]bž8Yi hgWX`UbX`!`\\b`6Yf`]b`ghY][Yb`X]Y`HYa dYfUhi fYbU_hi Y```ØVYf'`\\$; fUXžk Ug`X]Y`8]g_i gg]cb`i a `X]Y`I bhYfghØhni b[j cb`K]`Xh]YfYb`Xi fWX`K UggYfgWXU`Yb`bYi `YbhZUWXh''8Yf

K]`Xh]YfYI dYfhY`8Yf_'9\`Yfh`VYgWXfY]Vh`X]Y`G]hi Uh]cb`U`g
\YfUi gZcfXYfbXžXU`j]Y`Y`K]`Xh]YfY`k]Y`: ØWXgYžA UfXYfž`\{Y``i bX\
9]WX\`OfbWXYb`]b`XYf`GhUXh`j YfVfY]hYh`g]bX'''Hfchn`]\fYf
5bdUggi b[gZÀ\][_Y]h`Ub`<]hnYVYX]b[i b[Ybž'_ObbYb]bgVYgcbXYfY`Y]b][Y`J`O[Y``i bX`\si b[h]YfY`j cb`ni gAhn`]WXYb

K UggYfei Y``Yb`dfcZ]h]YfYb'''9\`Yfh`Yf_`Afhž`XUgg`[fO)*YfY`H]YfY`k]Y
: ØWXgY`i bX`K]`XgWXkY]bY`]b`XYf`FY[Y``[Ybi [`K UggYfghY``Yb`]b
]\fYf`I a [YVi b[`Z]bXYb`i bX`K UggYfgWXU`Yb`XU\Yf`b]WXh`]a a Yf
bchkYbX][`g]bX"

6YgcbXYfg'VYhfcZZYb'jcb'XYf'<]hnY'g]bX'JÒ[Y`žX]Y']b'ifVUbYb; YV]YhYb''YVYb'''<]Yfni 'nÀ\`Yb'ibhYf'UbXYfYa '1'b[Y
A Ui YfgY[`Yfž'X]Y'Ui Z[fibX']\fYf'BYghYf'ibhYf'8ÀW\Yfb'VY]'\c\YbHYa dYfUhifYb']b'; YZU\f'g]bX'''Ia 'X]YgYb'H]YfYb'ni '\Y`ZYbž
Ya dZ]Y\`h'9\`Yfhž'K UggYfgW\U`Yb'VYfY]hnighY``Ybž'X]Y'fY[Y`aÀ»][
[YfY]b][h'ibX'g]W\Yf'dcg]h]cb]Yfh'k YfXYb'gc``hYbž'ia 'g]Y'jcf
?UhnYb'ni 'gW\ØhnYb'''H]YfgW\ØhnYf'k Y]gYb'XUfUiZ'\]bž'XUgg'X]Y
GW\U`Yb'b]W\h'bif'XYa '8ifghgh]``Yb'X]YbYbž'gcbXYfb'UiW\'XUniž
XUgg'JÒ[Y`']\fY'\strigon' b[Yb'_Ø\`Yb'ibX'VUXYb'_ÒbbYb'''

< YfUi gZcfXYfi b[Yb Xi fWX X]Y HfcW_Yb\Y]h</pre>

8]Y'G]hi Uh]cb'k]fX'Xi fWX'X]Y'Ub\U`hYbXY'HfcW_Yb\Y]hij YfgWXÀfZhž X]Y']b'XYb'`YhnhYb'ZØbZ'A cbUhYb'ni 'bi f'XYf' < À`ZhY'XYf'ØV`]WXYb B]YXYfgWX`U[ga Yb[Yb'[YZØ\fh'\Uh"'8]Yg'VYhf]ZZh'b]WXh'bi f'_`Y]bY K]`Xh]YfYž'gcbXYfb'Ui WX'[YgWX k ÀWXhY'H]YfYž'X]Y']b K]`Xh]YfUi ZZUb[ghUh]cbYb'`UbXYbž'k Y]`'g]Y'ni 'k Yb]['K UggYf Z]bXYb"'8]Y'K UggYfj Yfgcf[i b[']b'XYf'BUhi f'k]fX'Xi fWX'XUg 5i ghfcW_bYb'j cb'6ÀWXYb'i bX'DZØhnYb'ghUf_'VYY]bhfÀWXh][h"'8Yf H]YfgWXi hnVi bX'Yf_`Àfhž'XUgg'A YbgWXYb'U_h]j 'XUni 'VY]hfU[Yb_ObbYbž']bXYa 'g]Y'K UggYf']b'HfÀb_Yb']b'; ÀfhYbž'Ui Z'HYffUggYb cXYf'6U`_cbYb'VYfY]hghY``Yb"

 $\label{lem:night} Nighn`]W.`]gh`XYf`GW.ihn`jcb`GW.UhhYbgdYbXYfb`k]Y`gW.ØhnYbXYb < YW_Yb`cXYf`GhY]b\Ø[Y`b`ZØf`K]`Xh]YfY`YggYbn]Y``"?Ø\`YbXY & OXYb`g]bX`ZØf`j]Y`Y`5fhYb`k]W.h][žkcVY]`@UiV`ibhYf`GhfÀiW.Yfb \]`Zhž`XYb`6cXYb`ZYiW.hini`\U`hYb"`8]Yg`]gh`VYgcbXYfg`fY`YjUbh`ZØf X]Y`6]cX]jYfg]hÀhž`X]Y`k]YXYfia`YbhgW.Y]XYbX`ZØf`XUg`,VYf`YVYb jcb`H]YfYb`ibX`DZUbnYb`]ghž`X]Y`ZØf`XUg`aYbgW.`]W.Y`@YVYb ibjYfn]W.hVUf`q]bX"$

@Ub[Zf]gh][Y @Ogi b[Yb ZØf K]`Xh]YfY

Ni f``Ub[Zf]gh][Yb'I bhYfghØhni b['XYf'K]`Xh]YfY'gW\`À[h'9\`Yfh'j cfž B]gh_ÀghYb'Ub'gW\Uhh][Yb': UggUXYb'ZØf'A Ui YfgY[`Yf'ni]bghU``]YfYb"'Ni XYa ']gh'Yg'k]W\h][ž'\fb[Y'GhUXhVÀi a Y'fY[Y`a À»][ni '[]Y»Ybž'k cVY]'Y]bY'A Yb[Y'j cb'+\$'V]g'%\$\$'@]hYfb'dfc'K cW\YYa dZc\`Yb'k]fX"'5i »YfXYa 'gc``hYb'j Yfg]Y[Y`hY': `ÀW\Yb'[YÒZZbYh

k YfXYbži a 'K UggYf'j Yfg]W_Yfb'ni '`UggYb'i bX'Ò_c`c[]gWk k Yfhj c``Y'@YVYbgfÀi a Y'ni 'gWk UZZYb"'

9]b][Y'K]`Xh]YfY'k]Y'?fYi nchhYfb'i bX'; chhYgUbVYhYf]bbYb_ObbhYb'gc[Uf'j cb'XYb'\O\YfYb'HYa dYfUhi fYb'dfcZ]h]YfYb"8YbbcW\'V`Y]Vh'Y]b'[fc»Yf'HY]`'XYf'\Y]a]gW\Yb'H]Yfk Y`h']bGhÀXhYb'k]Y'6Yf`]b'Ui Z'X]Y'I bhYfghØhni b['XYf'AYbgW\YbUb[Yk]YgYbž'[YfUXY']b'NY]hYb'YI hfYaYf'<]hnY"'

I a 'a Y\f'ØVYf'X]Y'G]hi Uh]cb'XYf'K]`Xh]YfY']b'6Yf`]b'i bX'X]Y bchk YbX][Yb'A U» bU\a Yb'ni f'I bhYfghØhni b['ni 'YfZU\fYbž'`YgYb G]Y'X]Y'Ui gZØ\f`]W\Yb'6Yf]W\hY'j cb'F66&('i bX'j ca' H]YfgW\i hnVi bX"

8 YhU]`g	
Cfh	6Yf`]bž'8YihgW\`UbX
Ei Y``Yb	• k k k "fVV&("XY
	kkk"h]YfgVWihnVibX"XY

6Ygi WXYb G]Y i bg Ui Z. a Y]b!VYf`]b bYh