

6Yf`]b"'8Yf'f\Y]b`UbX!dZà`n]gW\Y'A]b]ghYfdfàg]XYbh'AU`i
8fYmYf'\Uh'g]W\'XYfnY]h'[Y[Yb'X]Y'GW\`]Y»ib['XYf'; fYbnYb
ni 'XYb'BUW\VUf`àbXYfb']a'?UadZ'[Y[Yb'X]Y
?cfcbUdUbXYa]Y'Uig[YgdfcW\Yb"/Uad/, &&&/K]f'kc``Yb
b]W\hž'XUgg'X]Y'; fYbnYb'k]YXYf'[YgW\`cggYb'kYfXYbž'UVYf
k]f'kc``Yb'[YaY]bgUa'gW\UZZYbž'XUgg'k]f'a]h'XYf'DUbXYa]Y
ZYfh]['kYfXYb/Uad/, &&\$/ž'gU[hY'XYf'GD8!Dc`]h]_Yf'Ua
: fY]hU[']a'N8:

/ Ua d/, &&&/A cf[Yba U[Un]b/ Ua d/, &&\$/"9]bYf'ghY\h']b
Yb[Ya '?cbhU_h'a]h'XYb'BUWXVUf`AbXYfb': fUb_fY]WXž
@ I Ya Vi f['i bX'6Y`[]Yb'i bX'X]g_i h]Yfh'XYb'[Ya Y]bgUa Yb
5bgUhn"J]XYc'@ I Ya Vi f[g'5i » Yba]b]ghYf. '7cfcbU!
; fYbngWX`]Y » i b[Yb']b'9i fcdU'k UfYb'Y]b': Y\`Yf'8]Y
; fYbn_cbhfc``Yb'_cbbhYb'X]Y'5i gVfY]hi b['XYg'J]fi g'b]WXh
j Yf\]bXYfbžgU[h'XYf'`i I Ya Vi f[]gWXY'5i » Yba]b]ghYf'\\$Ub
5ggY`Vcfb"| 'FB8'Ni j cf'gdfUWX'XYf'VUXYb!
k ØfhhYa VYf[]gWXY'A]b]ghYfdfAq]XYbh/ Ua d\Y``]d/

``6Yf`]b"'8Yf`f\Y]b`UbX!dZÀ`n]gW\Y`A]b]ghYfdfÀg]XYbh'AU`i '8fYmYf\Uh'g]W\`XYfnY]h'[Y[Yb'X]Y'GW\`]Y» i b['XYf'; fYbnYb'ni 'XYbBUW\VUf`ÀbXYfb']a'? UadZ'[Y[Yb'X]Y'?cfcbUdUbXYa]YUig[YgdfcW\Yb"

K]fik c``Ybib]WkhžXUggiX]Y; fYbnYbik]YXYfi[YgWk`cggYbk YfXYbž'UVYfik]fik c``Ybi[Ya Y]bgUaigWkUZZYbž'XUggik]fia]hiXYfDUbXYa]YiZYfh][ik YfXYbiž'gU[hYiXYfiGD8!Dc`]h]_YfiUai:fY]hU[i]aN8: A cf[YbaiU[Un]bii'9]bYfighY\hi]biYb[Yai?cbhU_hia]hiXYbBUWkVUf`ÀbXYfbi:fUb_fY]Wkž'@ilYaVif[iibXi6Y`[]YbiibXX]g_ih]YfhiXYbi[YaY]bgUaYbi5bgUhn"

@ I Ya Vi f[g'5i » Yba]b]ghYf. '7cfcbU!; fYbngW\`]Y » i b[Yb']b 9i fcdU'k UfYb'Y]b': Y\`Yf

"8]Y'; fYbn_cbhfc``Yb'_cbbhYb'X]Y'5i gVfY]hi b['XYg'J]fi g'b]W\h
j Yf\]bXYfbž'gU[h'XYf'`i | Ya Vi f[]gW\Y'5i »Yba]b]ghYf'\YUb
5ggY`Vcfb"'| 'FB8

"NijcfgdfUW\"XYfVUXYb!k ØfhhYa VYf[]gW\Y`A]b]ghYfdfÀg]XYbh K]bZf]YX`?fYhgW\a Ubb`fl fØbYŁjcb`a Ò[`]W\Yb'; fYbn_cbhfc``Ybk]Y`]a 'jYf[Ub[YbYb':fØ\'U\f"'@Uih'?fYhgW\a Ubb`k UfYb']bYlhfYa Yb':À``Yb'UiW\; fYbngW\`]Y»ib[Yb'VYXfc\hž'k Ybb'g]W\"X]YJ]figjUf]UbhYb']b'XYb'BUW\VUf`ÀbXYfb']a a Yf'a Y\f'UigVfY]hYhYb"

"5b[Yg]Wkhg'XYf'?f]h]_'j]Y`Yfž'XUgg'X]Y'9f[YVb]ggY'XYg
@UbXYghfYZZYbg']b'j]Y`Yb'6YfY]WkYb'bcWk'_Y]bY'DYfgdY_h]jY
\UhhYbž'gU[hY'8fYmYf.'9g']gh'VYfY]hg'_`Ufž'XUgg'k]f'[YbUi Yf'gY]b
a @ggYb"'HfchnXYa ']gh'Yg'f]Wkh]['ibX'k]Wkh]['ni 'gU[Ybž'XUgg'k]f
Xi fWk'X]Y'A i hUh]cb'Y]bY'[fc»Y'6YXfc\ib['\UVYb"'K]f'a @ggYb
bi f'bUWk'H]fc`'gWkUi Ybž']b'X]Y'HgWkYWk]gWkY'FYdi V`]_"'

 $\label{eq:continuous} $$ YfgUUf`AbX]gWXYA]b]ghYfdfAg]XYbh'HcV]Ug'< Ubg'ff8 I ŁgWX`]Y * h YfbYi hY'; fYbn_cbhfc``Yb'bUWX : fUb_fY]WX cXYf'@ I Ya Vi f['b]WXh Ui g" =a '<]bV`]W_Ui Z'X]Y'5i gVfY]hi b['j cb'J]fi ga i hUh]cbYb']b 9i fcdU'gU[hY' < Ubg'Ua ': fY]hU[']b'XYf'F H@#bhj !GYbXi b[: fØ\ghUfh . K Ybb'Yg'cZZYbg]WXh`]WXY I bhYfgWX]YXY'nk]gWXYb XYb' \delta n]XYbnYb'[]Vhž\UVYb'k]f'_Y]bY'K U\`"$

GdU\b'j cfg]W\h]['VY]'k Y]hYfYb ? cfcbU[fYbnYb_cbhfc``Yb

``9f`VYhcbhY`^YXcW\ž`XUgg`Yg`]a ``GUUf`UbX`_Y]bY`; fYbnYb`a]h 6Uff]YfYb `a Y\f`[]Vh"`G]Y``YVYb`j]Y`a Y\f`ni gUa a Yb`]b`X]YgYa; fYbn[YV]Yh'i bX`_ÒbbYb`DYbX`Yf`b]W\h'Y]bZUW\`Ui ggW\`]Y»Yb"

∵a abhYfj]Yk kUfbhY < UbgʻUiW XUjcfžXUggʻX]Y 6ibXYg`ÀbXYf

VY] XYf '9f ÒZZbi b['U``Y]b'j cf[Y\Yb'k ØfXYb.'K Ybb'VY]gd]Y`gk Y]gY; YgW\ÀZhY']a VYbUW\VUfhYb'F\Y]b`UbX!DZU`n'c\bY'?ccfX]bUh]cbk]YXYfYf ÒZZbYh'k ØfXYbž'gc``hY'X]Y'g]YVYbhÀ[][Y'+bn]XYbn'XcfhibhYf'') ZU``Yb.' 8 Ug'k ÀfY'UVgc`i h'gW\ÀX`]W\ž'k Ybb'k]f']b'XYfBÀ\Y'k ÀfYbž'XUbb'k ØfXYb; YgW\ÀZhY'Yf ÒZZbYh'']b': fUb_fY]W\Ž@i | Ya Vif['i bX'F\Y]b`UbX!DZU`n'''Gc'VY_Àa dZYb'G]Y'Y]bYDUbXYa]Y'b]W\h'''9g'a i gg'ni gUa a Yb'[Ya UW\h'k YfXYb'i bX'k]f\UVYb'XUg'a]hY]bUbXYf'VYgdfcW\Yb' Ž'gU[hY'Yf''

"6i bXYg[Ygi bX\Y]hga]b]ghYf Ybg GdU\b \Uhrg]W j cfg]W h]['ni Y]bYf k Y]hYfYb 5i gk Y]hi b[XYf; fYbn_cbhfc ``Yb ni a 'GWki hn j cf UbghY W_YbXYb 7cfcbUj]fi g!J Uf]UbhYb [YÀi » Yfh" 9g _Ubb b]Wkh Ui g[YgWk `cggYb k YfXYbž XUgg ? cbhfc ``Yb Ui Wk 'Ub 'UbXYfYb; fYbndi b_hYb 'ghUhhZ]bXYb _ObbhYbž gU[hY 'XYf 78 I !Dc `]h]_Yf 'Ua : fY]hU[']b '6Yf `]b" '5b[Yg]Wkhg 'XYg k]Wkh][Yb '5i ghUi gWkg]b; fYbnfY[]cbYb ']gh'X]Y '6i bXYgfY[]Yfi b['VY] 'gc `WkYb 'A U» bU\a Yb YXcWk 'gY\f j cfg]Wkh]['i bX 'fØW_g]Wkhgj c `` "

"5V'X]YgYa 'GcbbhU['d`Ubh'XUg'6i bXYg]bbYba]b]ghYf]i a ž ni gÀhn`]W\"ni 'XYb'VYghY\YbXYb'?cbhfc``Yb']b'² ghYffY]W\"j cfØVYf[Y\YbXY'?cbhfc``Yb'Ub'XYb'; fYbnYb'ni f'HgW\YW\]gW\Yb FYdi V`]_'Y]bni ZØ\fYb"'GdU\b'gU[hYž'X]YgY'9bhgW\Y]Xi b['gY] gW\a Yfn\UZhž'UVYf'ZØf'Y]bY'VYgh]a a hY'NY]h'i bj Yfa Y]X`]W\" <]bhYf[fi bX']gh'XYf'GW\i hn'8 Yi hgW\`UbXg'j cf'XYa '9]bhf]hh'i bX XYf'JYfVfY]hi b['XYf'bYi Yb'J]fi qj Uf]UbhYb"

=bgd]f]Yfh'j ca '@J N'BYk gh]W_Yf'!2'Ni a '_ca d`YhhYb'5fh]_Y`

8 Y hU]`g

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z 'b!U["XY