

6UfYgʻZØfʻFUfYg . K Y]a UfYfʻGUa a `Yf VY[Y]ghYfhʻ< ÀbX`Yfʻa]hʻA cXY``Ui hcg

9f`YVYb`G]Y`VY]` 6UfYg`ZØf`FUfYg `Ua`%&"`⇒\`]ž`k]Y`DYhYf KifW\Y`a]h`gY]bYf`Ui»Yf[YkÒ\b`]W\Yb AcXY``UihcgUaa`ib[X]Y'<ÀbX`Yf`VY[Y]ghYfh°

8]Y`N8:!HfÒXY`g\ck `6UfYg`ZØf`FUfYg `YfZfYi h`g]W\`k Y]hYf\]b
[fc»Yf`6Y`]YVh\Y]hii bX`n]Y\h`k ÒW\Ybh`]W\`nU\`fY]W\Y`Ni gW\Ui Yf`]b
]\fYb`6Ubb"`6YgcbXYfg`]b`XYf``YhnhYb`: c`[Y`Ua `:fY]hU[ž`XYa `%\"

*\`]ž`gcf[hY`Y]bY`GUa a `i b['j cb`A cXY``Ui hcg`ZØf`5i ZfY[i b['i bhYf
XYb`<ÀbX`Yfb`i bX`nY][h`XUg`DchYbn]U``Y]bYf``Y]XYbgW\UZh`]W\Yb
<cVVm!GUa a `i b["

9]b ``Y]XYbgW\UZh`]W\Yf GUa a `Yf Ui g K Y]a Uf

DYhYf'K i fWXYžY]b'*'!'À\f][Yf'GUa a `Yf'Ui g'K Y]a Ufž'hfUh'a]h gY]bYf'VYY]bXfi W_YbXYb'GUa a `i b['j cb'%- *'A UhWXVcI! A cXY``Ui hcg']b'X]Y'^2 ZZYbh`]WX_Y]h''6YfY]hg'gY]h'UWXh'*J\fYb'k]Xa Yh Yf'g]WX'XYa 'GUa a Y`b'i bX'\Uh'Y]bY'J]Y`nU\``j cb A]b]Uhi fZU\fnYi [Yb'ni gUa a Yb[YghY``h''5i Z'XYf'Gi WXY'bUWX'Y]bYf < AbX`Yf_UfhY'a OWXhY'K i fWXY'bi b'gY]bY'@Y]XYbgWXUZh a cbYhUf]g]YfYb'i bX'X]Y'5i hcg'Ub'Y]bYb'bYi Yb'@]YV\UVYf j Yf_Ui ZYb"

9IdYfh]gY'ØVYffUgWXh'X]Y'< AbX`Yf

8 Yf'9 I dYfhY'7 c`a Uf'GW\i`hY!; c`hn'dfØZhY'X]Y'GUa a `i b['i bX'k Uf j cb'XYfYb'Ni ghUbX'VYY]bXfi W_h"'Hfchn'XYf'5`hYfgYfgW\Y]bi b[Ybž X]Y']b': cfa 'j cb'@U[Yfgdi fYb'Ui Z'XYb'6cl Yb'Yf_YbbVUf'k UfYbž VYZUbX'Yf'X]Y'A cXY``Y'U`g'[i h'Yf\U`hYb"' <]Yf'i bX'XU'[]Vh'Yg'Ub XYb'6cl Yb'@U[Yfgdi fYbž'UVYf'UbgcbghYb'g]bX'g]Y'U`hYfgVYX]b[h

6Y[Y]ghYfi b['i bX'J Yf\UbX`i b[Yb']a < ÀbX`YffUi a

5 g'X]Y' < ÀbX`Yf'X]Y'VYY]bXfi W_YbXY'GUa a `i b['YfV`]W_hYbž'k Uf X]Y'Gh]a a i b[']a 'F Ui a 'Ui g[Y`UggYb"'8 Ub]Y``A YmYf'i bX'gY]bY ?c``Y[Yb'_cbbhYb']\fY'6Y[Y]ghYfi b['_Ui a 'ni fØW_\U`hYb'i bX f]YZYb.' A Y]bY' < YffYb'' '8]Y'_`Y]bYb'5i hcg'ZYggY`hYb'gcZcfh']\fY 5i Za Yf_gUa _Y]h'''GW\bY```VY[UbbYb'X]Y' < ÀbX`Yfž'a]hY]bUbXYf'ni _cb_i ff]YfYbž'i bX'X]Y'J Yf\UbX`i b[Yb'bU\a Yb']\fYb'@Ui Z'

9]b [i hYg; YgWX ÀZh

6UfYg ZØf F UfYg i bX X]Y @Y]XYbgW UZh XYg GUa a `Ybg

8]Y'9d]gcXY'j YfXYi h`]W\h'b]W\h'b]W\h'bi f'X]Y'i b[YVfcW\YbY': Ugn]bUh]cb
ZØf'GUa a `YfghØW_Yž'gcbXYfb'Ui W\ž'k]Y'k]W\h]['X]Y'6Y[Y]ghYfi b[
i bX'XUg'9b[U[Ya Ybh'Y]bYg'GUa a `Yfg'g]bX"' 6UfYg'ZØf'FUfYg
V]YhYh'Y]bY'D`UhhZcfa ž'Ui Z'XYf'A YbgW\Yb']\fY'GW\AhnY
dfAgYbh]YfYb'_ObbYbž'i bX'ZOfXYfh'gca]h'XUg'\DhYfYggY'Ub
5bh]ei]hAhYb'i bX'GUa a `YfghØW_Yb']b'XYf'VfY]hYb'² ZZYbh`]W_Y]h"

: $\emptyset f$: Ubg : XYf : G ck . N8 : nY][h : 6UfYg : $Z\emptyset f$: FUfYg : a : cbhU[g : V]g : ZfY]hU[g : V :

 $\label{eq:continuous} $ZUgn]b]YfYbXYg': YbghYf']b'X]Y'K Y`h'XYg'GUa a Y`bg'i bX'XYf dYfgÒb`]WXYb'; YgWX]WXhYb'\]bhYf'XYb'C V'Y_hYb''$

B 5;

8 Y hU]`q

6Ygi WXYb G]Y i bg Ui Z b!U["XY