

: U\fYfZ`i W\h'i bX`8fc[YbZU\fh.`Dc`]nY] []Vh'5`Ufa]a < Uj Y``UbX°

5_hi Y``Y`Dc`]nY]a Y`Xi b[Yb`Ui g`XYa '<Uj Y``UbX.`I bZÀ``Yž 8fc[YbZU\fhYb'i bX`Bchfi Zbi a a Yfb'ZØf'X]Y`FY[]cb'Ua %, "\$+"&\$&)"



:]b_Yb_fi [Yf GhfU» Y '+' ž'%(* %& : U`_YbgYYž'8 Yi hgW `Ub X '! 5a '%, "\$+"&\$&) []Vh'Yg'U_hi Y``Y'BUW\f]W\hYb'Ui g'XYf'FY[]cb < Uj Y``UbXž'X]Y'Y]ba U``a Y\f'X]Y' < YfUi gZcfXYfi b[Yb']a GhfU» Ybj Yf_Y\f'i bX'X]Y'Dc`]nY]UfVY]hj cf'Cfh'VY`Yi W\hYb"'8]Y Dc`]nY]'VYf]W\hYhj cb'Y]bYa 'I bZU```a]h: U\fYfZi W\h']b': U`_YbgYY gck]Y'Y]bYf'ZYgh[YghY``hYb'8fc[YbZU\fh']b'FUh\Ybck "'8]YgY J cfZÀ``Y'k YfZYb'@]W\h'Ui Z'X]Y'DfcV`Ya Uh]_'j cb'J Yf_Y\fgg]W\Yf\Y]h i bX'X]Y'Bchk YbX][_Y]h'Y]bYf'YZZY_h]j Yb': U\bXi b["

9]b`VYgcbXYfYg`5i [Yba Yf_``Y[h`X]Y`Dc`]nY]`Ui Z'Y]bYb
J Yf_Y\fgi bZU``ž'XYf`g]W\`Ua `ZfØ\Yb`GcbbhU[UVYbX`Ui Z'XYf
6Yf`]bYf`GhfU»Y`]b`FUh\Ybck `YfY][bYhY"'<]Yf`a Y`XYhY`Y]b`NYi [Yž
XUgg`XYf`J Yfi fgUW\Yf`bUW\`XYa `I bZU```i bYf`Ui Vh`j ca `I bZU``cfh

[YZØWW.hYhrk Uf" J YfXUWW.hrUi Z'5`_c\c`Y]bZi ggʻVYghUbXʻVYfY]hgʻj cf XYfʻ: U\bXi b[ž'X]YʻXUfUi Z\]bʻj cbʻXYfʻDc`]nY]ʻXYfʻ \pm 0gdY_h]cb < Uj Y``UbXʻY]b[Y`Y]hYhrk i fXY" 8Yfʻ: `ØWW.h][Yʻ_cbbhYʻ`c_U`]g]Yfhʻi bX]XYbh]Z]n]Yfhʻk YfXYb/Y]bYʻ6`i hdfcVYbYbhbU\a YʻVYghÀh][hYʻX]Y 5`_c\c`]g]Yfi b["'8]YʻGWW.UXYbg\Ò\Yʻk]fXʻUi ZʻYhk Uʻ) "\$\$\$ʻ9i fc [YgWW.Àhnhži bXʻXYa :: U\fYfʻk i fXYʻX]YʻK Y]hYfZU\fhʻi bhYfgU[h'' 8]YgYʻG]hi Uh]cbʻj YfXYi h`]WW.hžʻk]Yʻk]WW.h]['Y]bYʻnØ[][YʻFYU_h]cb XYfʻ9]bgUhn_fÀZhYʻ]ghži a 'X]YʻGhfU» Ybʻg]WW.YfYfʻni 'a UWW.YbžʻgcʻX]Y Dc`]nY]ʻ]bʻ]\fYa '6Yf]WW.h'Ui Zʻdc`]nY]"VfUbXYbVi f["XY"

 $8]Y'dc`]nY]`]WXYb'GhUh]gh]_Yb'XYf``YhnhYb'NY]h'nY][YbžXUgg'I bZA``Yi bX'8Y`]_hY']a 'GhfU*Ybj Yf_Y\fini bY\a YbX'a i `h]ZU_hcf]Y```g]bX'' Gc'k i fXY'&$&' ']b'BcfXf\Y]b!K YghZU`Yb'Y]b'5bgh]Y['XYf'; YgUa hnU\``XYf'JYf_Y\fgi bZA``Y'i a '(ž)'DfcnYbh']a 'JYf[`Y]WX ni a 'Jcf'U\f'j YfnY]WXbYhž'k Ug'X]Y'`Ui ZYbXY'8]g_i gg]cb'ØVYf JYf_Y\fgg]WXYf\Y]h'Ub\Y]nh'''Hfchn'g]b_YbXYf'NU\`Yb gWXk Yfj Yf`YhnhYf'DYfgcbYb'V`Y]Vh'X]Y'NU\``XYf'[YhÒhYhYb:i*[Ab[Yf'VYgcf[b]gYffY[YbX'\cWX'']bg[YgUa h'()$'A YbgWXYbj Yf`cfYb']\f'@YVYb']a 'GhfU*Ybj Yf_Y\fz'XUfi bhYf'%$%':i*[Ab[Yfžk]Y'X]Y'*bZcfa Uh]cbYb'Ui Z'dc`]nY]"bfk 'nY][Yb''$

8]Y'JYfi fgUW\Yf'i bhYf'8fc[Yb!'cXYf'5`_c\c`Y]bZi gg'k Y]gYb'Ui Z
Y]b'k Y]hYf\]b'VYghY\YbXYg'DfcV`Ya'\]bž'XUg']a'Ni [Y'XYf
ghY][YbXYb'NU\`Yb'Ub']``Y[U`Yb'5i hcfYbbYb'i bX'8fc[YbZU\fhYb
bcW\'j YfghÀf_h'k]fX"'=a'\J\f'&\$&'fY[]ghf]YfhY'X]Y'Dc`]nY]'&"%((
j YfVchYbY'?Zn!FYbbYbž'X]Y'\OW\ghY'NU\``gY]h'9]bZØ\fi b['XYg
GhfUZhUhVYghUbXg"'<]YfVY]'YbXYhYb') &*'FYbbYb'a]h'Y]bYa
JYf_Y\fgi bZU``ž'k Ug'X]Y'Bchk YbX][_Y]h'j cb'dfÀj Ybh]j Yb
A U» bU\a Yb'i bhYfghfY]W\h"'\=\D'X]YgYa'Ni gUa a Yb\Ub['k]fX'Ui W\
Ui Z'X]Y'k]W\h][Yb'Bchfi Zbi a a Yfb'\]b[Yk]YgYb.'Dc`]nY]'i bhYf'%%\$
i bX'FYhhi b[gX]Ybgh'i bhYf'%%&'g]bX''YXYfnY]h'YffY]W\VUf"

Dc`]nY]k UWXYb i bX 5bgdfYWXdUfhbYf

Ni f'I bhYfghØhni b['XYf'6Øf[Yf'ghY\Yb'j YfgWX]YXYbY Dc`]nY]k UWXYb'ni f'J YfZØ[i b[ž'X]Y'g]WX'ØVYf'XUg'<Uj Y``UbX $\label{eq:continuity} $$ yfhY]`Yb"'=b: U`_YbgYY'VYZ]bXYh'g]WX'XUg'Dc`]nY]fYj]Yf']b'XYf: $$]b_Yb_fi [Yf'GhfU_XY'+' "'8]Y'FYj]Yfdc`]nY]']gh'\]Yf'i bhYf'Ž (-' &&:&+) $ 'YffY]WXVUf"'5i WX']b'UbXYfYb'GhÀXhYb'k]Y'6f]YgY`Ub[ŽGWX Obk U`XY!; `]Ybž'i bX'FUh\Ybck'[]Vh'Yg'5bgdfYWXdUfhbYfž'X]YVY]: fU[Yb'i bX'DfcV`Ya Yb'I bhYfghØhni b['V]YhYb"'=a ': c`[YbXYbY]bY', VYfg]WXh'XYf'k]WXh][ghYb'Dc`]nY]ghY``Yb.$

Dc`]nY]k UWXY	5 X f Y g g Y	HY`Y Zc b
FYj]Yfdc`]nY]	:]b_Yb_fi[Yf'GhfU»Y	Ž (- '' ' && '&+) \$
: U`_YbgYY	+' ž'%(* %&': U`_YbgYY	
FYj]Yfdc`]nY]	KighYfa Uf_Yf'5``YY	Ž (- '' ' && '&+)!%\$)+
6f]YgY`Ub[%ž [·] %(*) * [·] 6f]YgY`Ub[
Dc`]nY]fYj]Yf	FiXc`Zl6fY]hgWkY]X!	Ž (- '' ' ,) ')) \$\$
FUh\Ybck	GhfU» Y '(&ž'%(+%&	
	F Uh\ Y b c k	
FYj]Yfdc`]nY]	6Yf`]bYf'5``YY'+ž	Ž (- '' ' && '&+)!%\$))
GWX Òbk U`XY!; `]Yb	%(* &% GWX Obk U`XY!	
	; `]Yb	

±g[YgUa h'V`Y]Vh'XUg'H\Ya U'J Yf_Y\fgg]W\Yf\Y]h']b'<Uj Y``UbX'Y]b k]W\h][Yg'5b`]Y[Yb'ZØf'X]Y'Dc`]nY]'i bX'X]Y'6Yj Ò`_Yfi b["'A Ub'_Ubb bi f'\cZZYbž'XUgg'Xi fW\'ghYh][Y'6Ya Ø\i b[Yb'gck c\``X]Y I bZU``nU\`Yb'g]b_Yb'U`g'Ui W\'X]Y'9]bg]W\h'XYf'J Yf_Y\fghY]`bY\a Yf k ÀW\ghž'i a '[YZÀ\f`]W\Y'G]hi Uh]cbYb'ni 'j Yfa Y]XYb"

8 Y hU]`g	
Cfh	:]b_Yb_fi [Yf`GhfU» Y`+' ž'%(* %&`: U`_YbgYYž
	8 Yi hgWX`UbX
EiY``Yb	• k k k "a Un!cb`]bY"XY
	dc`]nY]"VfUbXYbVi f["XY
	dc`]nY]"bfk

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