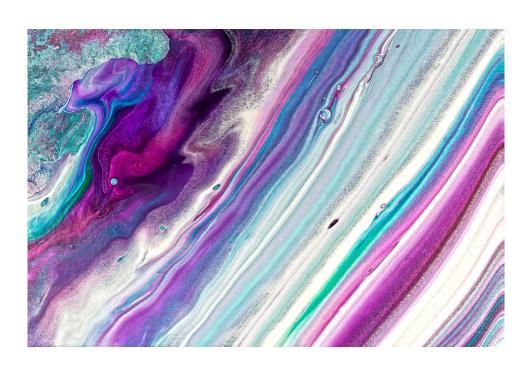


9bhXYW_Y';]Y» Yb. 'B Uhi fž'? i `hi f'i bX _i `]bUf]gWXY'; Y\Y]a b]ggY

9bhXYW_Yb'G]Y';]Y»Yb.'jcb'UhYa VYfUiVYbXYf'BUhif'ØVYffY[]cbU`Y'?i`]bUf]_'V]g'\]b'ni'_i`hifY``Yb'GW\AhnYb'ibXgdUbbYbXYb'CihXccf!5_h]j]hAhYb"'9f`YVYb'G]Y'`c_U`Y':YghY°



K]``_ca a Yb]b;]Y * Yb ž Y]b Yf j YfghY W_hYb DYf Y]a '< YfnYb 8 Yi hgW. `Ub Xg ž X]Y `X Uf Ui Z k Uf hYhž Yb hX Y W_h ni k Yf XYb ** 8]YgY W. Uf a Ub hY `GhU Xhž `VY _ Ub bh `ZØf `]\ fY ``YVYb X][Y `5 ha cgd\ Àf Y i b X VYY]b Xfi W_Yb XYb I b]j Yfg]h Ahg[YgW.]W. hY ž V]YhYh Y]b Y dYf ZY _hY A]gW ki b[`Ui g ?* i `hi f ž B Uhi f i b X _ i `]b Uf]gW Yb ; Yb ØggYb "C V `X i Y]b; YgW ki Mg ZUb 'V]ghž Y]b B Uhi f `]YV\ UVYf c XYf Y]b ZUW ki bi f `Ui Z XYf `Gi W Y b UW b Yi Yb; YgW ka UW gYf `YVb]ggYb ';]Y * Yb `\ Uh `ZØf YXYb Yhk Ug ni 'V]YhYb " \= b X]YgYa '5 f h]_Y `b Y\a Yb k]f `X]W 'a]h `Ui Z Y]b Y `9b h X Y W_i b[gf Y]gY `Xi f W X]Y `W Uf a Ub h Yb `Ghf U * Yb ž X]Y Uh Ya VYf Ui VYb X Yb `@Ub X g W U Zh Yb `X Y g `@Ub X _f Y]g Y g i b X `X]Y f Y]W \ U`h][Y _i `]b Uf]g W Y `Gn Y b Y " @Ugg i bg [Ya Y]b g Ua X]Y _ i `hi f Y ``Yb `G W Ahm Y ž X]Y `C i h X c c f! 5 V Y b h Yi Yf i b X `X]Y `c _ U`Yb J Yf Ub gh U`hi b [Yb Yf _ i b X Yb z X]Y `XY]b Yb `5 i Z Yb h \ U`h]b;]Y * Yb

i bj Yf[Ygg`]WX 'a UWX Yb 'k YfXYb" 'A UWX 'X]WX 'VYfY]h 'ZØf 'Y]b Ui ZfY[YbXYg '5 VYbhYi Yf ']b 'X]YgYf 'GhÀXhYbž'X]Y 'HfUX]h]cb 'i bX A cXYfbY 'Ui Z'k i bXYfVUfY 'K Y]gY 'j YfY]bh°

9bhXYW_i b[XYf WX Ufa UbhYb GhUXh;]Y» Yb

;]Y» YbžY]bY XYf'À`hYghYb GhÀXhY]b < YggYbž'\Uh'j]Y`a Y\fini V]YhYbž'U`g'a Ub 'Ui Z'XYb 'YfghYb '6`]W_'j Yfa i hYb '_ObbhY'' A]h'gY]bYf Y]bn][Ufh][Yb 'A]gW\i b['Ui g'; YgW\]W\hYž'?i `hi f'i bX 'B Uhi f'n]Y\h;]Y» Yb 'gck c\` 'Hci f]ghYb 'U`g'Ui W\'9]b\Y]a]gW\Y'Ub"'=a '< YfnYb X]YgYf'XmbUa]gW\Yb 'GhUXh'YbhXYW_Yb '6Ygi W\Yf'Y]b`UXYbXY :i » [Àb[YfncbYbž'\]ghcf]gW\Y'; YVÀi XY'i bX'nU\`fY]W\Y'DUf_gž'X]Y ni a 'J Yfk Y]`Yb'Y]b`UXYb"

8]Y; YgWX]WXhY; cb;]Y»Yb; fY]WXh; V]g;]bg; %&"; \$J\f\i bXYfh; ni fØW_"
9]b;\YfUi gfU[YbXYg; AYf_aU`; XYf; GhUXh;]gh; X]Y; \$\alpha I fhi ghi g!
@]YV][!I b]j Yfg]hÀhŁž; X]Y; %*\$+;[Y[fØbXYh; ki fXY; i bX; Y]bY; XYf
À; hYghYb; I b]j Yfg]hÀhYb; 8Yi hgWX; UbXg;]gh; 8]Y; I b]j Yfg]hÀh; dfÀ[h
b]WXh; bi f; XUg; GhUXhV]; Xž; gcbXYfb; Ui WX; X]Y; YVYbX][Y; 5 ha cgd\ÀfYž
X]Y;]Y»Yb; Y]bn][Ufh][; a UWXh; A]h; ØVYf; &+; \$\$\$; Ghi X]YfYbXYb
Vf]b[h; X]Y; I b]j Yfg]hÀh; @YVYb; i bX; J]Y; ZU; h;]b; X]Y; GhUXh;

9]b 'GdUn]Yf[Ub['Xi fW 'XUg'GhUXhnYbhfi a 'cZZYbVUfhj]Y 'Y VYa Yf_Ybgk YfhY '6Ui k Yf_Y 'i bX 'D`ÀhnY" '9]b 'VY`]YVhYf'C fh 'ZØf 9]b\Y]a]gW\Y'i bX 'Hci f]ghYb ']gh'XYf'A Uf_hd`Uhnž'XYf'j cb \]ghcf]gW\Yb'; YVÀi XYb'[YgÀi a h']ghž'XUfi bhYf'XUg VYY]bXfi W_YbXY'F Uh\ Ui g'a]h'gY]bYa 'W\UfU_hYf]gh]gW\Yb; `cW_Ybhi fa "'5i Z'XYa 'A Uf_h'Z]bXYh'fY[Y`a À»]['Y]b K cW\Yba Uf_h'ghUhhž'Ui Z'XYa 'fY[]cbU`Y'DfcXi _hY'i bX ? Ògh`]W_Y]hYb'Yfk cfVYb'k YfXYb'_ObbYb"

8]Y'Gh"'>U\\&V]'?]f\\Y'Ui g'XYa '\\("\\\)\f\i bXYfh']gh'Y]b'k Y]h\Yf\g Uf\\\]h\Y_hcb]g\\Yg'<][\\`][\h\\Z'XUg'6Ygi \\XYf'b]\\Xh'j YfdUggYb gc``h\Yb"'8]YgY'[ch]g\\Y'?]f\\XY'VYY]bXfi \\W_h'b]\\Xh'bi f'Xi f\\X']\f\\\Ai \rightarrow Yf\g''9fg\\Y\]bi b[g\V]`X\Z'gcbXYfb'\VY\Yf\VYf[h'Ui \\X'Y]bYb df\\X\\h][Yb'5`hUf'i bX'\VYXYi h\YbXY'?i bghk \Yf_Y"'9]b'6\Ygi \\X\]Yg\Yf\?]f\\X\\Y']g\Yf\\Yf[Ub[Yb\Y]h'

9]b'k Y]hYfYg'≯k Y`;]Y» Ybg']gh'XUg'6chUb]gWX Y'; UfhYb"'8]YgYf; UfhYb'[Y\Òfh'ni f'≯ghi g!@]YV][!I b]j Yfg]hÀh'i bX'V]YhYh'Y]bY UhYa VYfUi VYbXY'GUa a `i b['j cb'DZ'UbnYb'Ui g'U``Yf'K Y`h"'

<]Yf'_Ubb'a Ub'gdUn]YfYb'[Y\Ybž'X]Y'Gh]``Y'[Yb]Y» Yb'i bX'cZh
J YfUbghU`hi b[Yb'k]Y'DZ'UbnYba Àf_hY'cXYf': Ø\fi b[Yb'Yf`YVYb"
8 Yf'; UfhYb']gh'VYgcbXYfg']a ': fØ\`]b['i bX'Gca a Yf'Y]b'VY`]YVhYf
C fh'ZØf'D]W_b]W_g'i bX'ni a '9bhgdUbbYb']a '; fØbYb"</pre>

8]Y'GhUXh';]Y» Yb']gh'ni XYa 'Y]b'\Yfj cffU[YbXYf'5i g[Ub[gdi b_hž i a 'X]Y'i a ']Y[YbXYb'BUhi fgW\Ob\Y]hYb'XYg'@UbX_fY]gYg
;]Y» Yb'ni 'Yf_i bXYb"'9bh`Ub['XYf'@U\b'[]Vh'Yg'j]Y`Y'FUX!'i bX
K UbXYfk Y[Yž'X]Y'Y]bY'gdY_hU_i 'ÀfY'5i gg]W\h'Ui Z'X]Y'@UbXgW\UZh
V]YhYb"'6YgcbXYfg'X]Y'K UbXYfi b['Ybh`Ub['XYg'@U\bfUXk Y[g
[]`h'U`g'Ya dZY\`Ybgk Yfh'i bX'n]Y\h'j]Y`Y'FUXZU\fYf'i bX
K UbXYfVY[Y]ghYfhY'Ub"

 $8 \ Uf \emptyset VYf``]bUi g`]gh;]Y * Yb`Z \emptyset f`gY]bY``YVYbX][Y`?i``hi fgnYbY VY_Ubbh''`NU\`fY]WXY`H\YUhYf!`i bX`A i g]_YjYbhg`Z]bXYb`XUg [UbnY`&U\f` \emptyset VYf`ghUhh''`9g`]gh`fUhgUa ž`Y]bYb`6`]W_`]b`XYb JYfUbghU`hi b[g_U`YbXYf`XYf`GhUXh`ni `k YfZYbž`i a `X]Y`U_hi Y``ghYb G\ck g`i bX`5i ZZ \emptyset\fi b[Yb`ni `YbhXYW_Yb''$

I bX'b]Wkh'ni 'j Yf[YggYbž'X]Y'Y]b`UXYbXYb'7UZÅg'i bX'FYghUi fUbhgž X]Y'hmd]gWkY'\Ygg]gWkY'?ØWkY'gck]Y']bhYfbUh]cbU`Y'; Yf]WkhYUbV]YhYb' 'dYfZY_hY'CfhYž'i a 'g]Wk'bUWk'Y]bYa 'Yf`YVb]gfY]WkYbHU['ni 'YbhgdUbbYb"';]Y»Yb'\Uh'ZØf'YXYb'; YgWka UW_'Yhk Ug'niV]YhYb°

Ni gUa a YbZUggYbX``Àggh'g]W\`gU[Ybž'XUgg';]Y»Yb`Y]bY
W\Ufa UbhY`GhUXh`]ghž'X]Y`j]Y``ni `YbhXYW_Yb`\Uh"`A]h`]\fYf
]bhYfYggUbhYb'; YgW\]W\hYž'XYf``YVYbX][Yb'?i`hi f'i bX`XYb
gW\ÒbYb`BUhi ffÀi a Yb`]gh'g]Y`Y]b`]XYU`Yg`N]Y``ZØf`FY]gYbXYž'X]Y
bUW\`Ui h\Ybh]gW\Yb`9fZU\fi b[Yb`gi W\Yb": Øf`a Y\f
\div Zcfa Uh]cbYb`ØVYf';]Y»Yb`i bX`ni _ØbZh][Y`JYfUbghU`hi b[Ybž
VYqi W\Y'X]Y`cZZ[n]Y``Y`K YVq]hY"

BUhifdif]bXYbkibXYfgWXObYb

@UbXgWXUZhYb XYg @UbX_fY]gYg

8 Yf @Ub X_fY]g;]Y» Yb]gh b]W h b i f Y]b i f V Ub Yg N Y b h fi a ž gcb X Y fb 'Ui W 'Y]b k U\fYg 'DUfUX]Yg 'ZØf 'B Uhi f`]Y V\UV Y f" I a [Y V Y b j cb 'n U\ `fY]W Y b 'K À `X Y fb ž' [f Ø b Y b '< Ø [Y `b i b X a U `Y f]g W Y b @Ub X g W U Zh Y b 'V]Yh Y h 'X]Y 'F Y []cb 'Y]b Y 'd Y f Z Y_h Y '? i `]gg Y 'ZØf 'C i h X c c f! 5_h]j]h Àh Y b 'i b X 'Y b h g d Ub b Y b X Y '5 i g Z Ø [Y " '9 [U `ž c V 'X i 'Y]b ': Ub 'j c b K Ub X Y fb ž' F U X Z U \ f Y b 'c X Y f 'Y]b Z U W 'b i f 'j cb 'X Y f 'B Uhi f 'V]gh ž' \] Y f Z b X Y g h X i 'U ``Y g ž' k Ug 'X Ug' < Y f n 'V Y [Y \ f h"

9]b 'UVgc `i hYg' <][\ `][\ h'XYf'FY[]cb ']gh'XYf'J i `_Ubf]b["'8]YgY VYY]bXfi W_YbXY '@UbXgWX UZh'YbhghUbX'Xi fWX 'j Yf[Ub[YbY j i `_Ub]gWXY'5_h]j]hÀhYb'i bX'V]YhYh'\Yi hY'Y]bY'J]Y`nU\`'j cb K UbXYfk Y[Yb"'5i Z'XYb'[i h'a Uf_]YfhYb'Fci hYb'_Ubbgh'Xi 'X]Y VYY]bXfi W_YbXY'J Y[YhUh]cb'i bX'X]Y'UhYa VYfUi VYbXYb 5i gg]WXhYb'[Yb]Y» Yb"'C V'Xi 'Y]bY'_`Y]bY'K UbXYfhci f'cXYf'Y]bY a Y\fhÀ[][Y'HfY__]b[fY]gY'd`Ubghž'XYf'Ji `_Ubf]b['\Uh'ZØf'YXYb YhK Ug'ni 'V]YhYb"

: Øf`X]Y Yb][Ybž`X]Y [YfbY a]h`XYa :: U\ffUX ii bhYfk Y[g`g]bXž`]gh XUg`Fi bX ii a ;]Y» Yb`FUXk Y[YbYhn`Y]bY hc``Y`Cdh]cb"'9g V]YhYh`Y]bY`J]Y`nU\``j cb`Ui g[YgW\]`XYfhYb`K Y[Ybž`X]Y`Xi fW\`X]Y]Xm``]gW\Y`@UbXgW\UZh`XYg`@UbX_fY]gYg`ZØ\fYb"`J cb`fi \][Yb 8 ÒfZYfb`V]g`\]b`ni ``YV\UZhYb`: Y`XYfb`i bX`K]YgYb`_Ubbgh`Xi `\]Yf X]Y`: `cfU`i bX`: Ui bU`XYf`FY[]cb`\Ui hbU\`Yf`YVYb"`I a `XUg 5VYbhYi Yf`bcW\`gdUbbYbXYf`ni `[YghU`hYbž`gcf[Y`XUZØfž`XUgg`Xi X]Y`6]c!6Ui Yfb\OZY`Ybh`Ub[`XYf`GhfYW_Y`VYgi W\ghž`X]Y``c_U`Y DfcXi _hY`i bX`9f`YVb]ggY`UbV]YhYb"

K Ybb Xi 'Ui Z'XYf'Gi W.Y'bUW. Y]bYa 'FØW_ni [gcfh'V]ghžgc``hYgh'Xi X]Y'K À`XYfb'i bX'BUhi fgW i hn[YV]YhYb'fi bX'i a ';]Y» Yb'b]W.h j YfdUggYb"'8]Y'K À`XYf'g]bX'b]W.h'bi f'Y]b'YW.hYf'Fi \Ydc`ž'g]Y V]YhYb'Ui W.'X]Y'A Ò[`]W._Y]hž'K]`Xh]YfY'ni 'VYcVUW.hYb"'A]h'Y]b k Yb]['; 'ØW_'_Ubbgh'Xi 'FY\Yž'K]`XgW.k Y]bY'i bX'X]j YfgY J c[Y`UfhYb'g]W.hYb"'8]YgY'BUhi fYf`YVb]ggY'V]YhYb'b]W.h'bi f'Y]bY 5i [Ybk Y]XYž'gcbXYfb'\Y`ZYb'Ui W.'XUVY]ž'XYb'5``hU[gghfYgg'\]bhYf X]f'ni '`UggYb"

9]b k Y]hYfYf gWk ObYf C fh]gh XYf GWk k UbYbhY]wk z XYf g]wk]a < YfnYb j cb;]Y » Yb VYZ]b XYh "8]YgYf _ `Y]bYz Zf]YX`]Wk Y C fh `\ AXh ni a `J Yfk Y]`Yb Y]b " GdUn]YfY `Ua `HY]Wk `Ybh `Ub[z [Yb]Y » Y `X]Y Zf]gWk Y @ Zh i b X `VYc VUWk hY `X]Y `9bhYb ii b X `GWk k \ AbYz `X]Y j cfVY]gWk k]a a Yb " `9g `]gh d Yf ZY _h `ZØf `Y]b `D]W_b]W_ `a]h : fYi b XYb c XYf `ZØf `fca Ubh]gWk Y `Ghi b XYb `ni `nk Y]h " 8 Yf `Ub[fYbnYb XY GhUXhd Uf _z XYf '5 `hY '6 c hUb]gWk Y ; UfhYb z V]YhYh ni XYa `Y]bY J]Y `nU\ `j cb `DZ UbnYb ii b X `]gh Y]b `[fc » Ufh][Yf `C fh `ZØf `Y]b Yb Gd Un]Yf[Ub["

8]Y'FY[]cb'fi bX'i a ';]Y»Yb'\Uh'Ui W.'Y]b][Y'gW.ÒbY': `ØggYž'X]Y]XYU`ini a '5b[Y`b'i bX'?Ubi ZU\fYb'g]bX"'8Yf'@U\b'ni a '6Y]gd]Y`žZ]Y»h'a U`Yf]gW.'Xi fW.'X]Y'@UbXgW.UZhii bX'V]YhYhinU\`fY]W.YGhY``Yb'ZØf'K UggYfgdcfh`Yf"'CV'[Ya Øh`]W.Yg'DUXXY`b'cXYfUbgdfi W.gj c``Yg'5b[Y`bž'\]Yf'Z]bXYgh'Xi 'X]Y'dYfZY_hY'A]gW.i b[Ui q'9bhqdUbbi b['i bX'5VYbhYi Yf"

5_h]j]hÀhYb	GhUbXcfhY	6YgcbXYf\Y]hYb
K UbXYfb	Ji`_Ubf]b[; Y`ÀbXYhmd]gWXY
		ZcfU'i bX'ZUi bU
FUXZU\fYb	FibX'ia';]Y»Yb	5i g[YgWX]`XYfhY
		KY[Yž6]c!
		6Ui Yfb\ÒZY
H]YfVYcVUW\hi b[Yb	K À`XYf	FY\YžK]`XgWkY]bYž
		J Ò[Y`
?Ubi ZU\fYb	@U\b	; Ya Øh`]WXYg
		DUXXY`bž'5b[Y`b

K Ybb'Xi 'XUg'9f'YVb]g'bcWX']bhYbg]j]YfYb'a ÒWXhYghž'_ÒbbhYgh'Xi Ui WX'Ub'Y]bYf'[YZØ\fhYb'BUhi fhci f'hY]'bY\a Yb"'J]Y'Y''c_U'Y BUhi fZØ\fYf'V]YhYb'Hci fYb'Ubž'X]Y'X]f'b]WXh'bi f'X]Y'GWXÒb\Y]h'XYf @UbXgWXUZh'bÀ\YfVf]b[Ybž'gcbXYfb'X]f'Ui WX'Y]b'h]YZYg JYfghÀbXb]g'ZØf'X]Y'_ca d'YIYb'2_cgmghYa Y'XYf'FY[]cb j Yfa]hhY'b"'<]Yf''Yfbgh'Xi 'j]Y'Yg'ØVYf'X]Y'Y]b\Y]a]gWXY': `cfU'i bX: Ui bUž'gck]Y'ØVYf'X]Y'bUWX\U`h][Y'Bi hni b['XYf'bUhØf`]WXYb FYggci fWYb"

 $\label{lem:conditional} $\operatorname{JYf}[\]gg^b]Wh^*ZY]bY^?Ua\ YfU^a\]mi\ bY\ a\ Yb^8]Y^@UbXgWkUZh^XYf$

I a [YVi b[';]Y» Ybg']gh'gdY_hU_i `Àf'i bX'Yg'[]Vh'i bnÀ\`][Y; Y`Y[Yb\Y]hYb'ZØf'hc``Y': chcg"'Jcb'XYb'V`Ø\YbXYb'K]YgYb']a: fØ\`]b['V]g'ni 'XYb'Vi bhYb'@Ui VZÀfVi b[Yb']a '<YfVgh'g]bX'X]Y@UbXqW\UZhYb']a a Yf'Y]bYb'6`]W_'k Yfh"

 $GY] `Yg `Y] b `Yb hgd Ubb Yb XYf `HU[`]a `: fY] Yb `c XYf `Y] b `UVYb hYi Yf`] WXYf 5i gV`] W_ `Ui Z'X] Y `B Uhi f` `XYf `@Ub X_fY] g ;]Y * Yb `\ Uhi ZØf `YXY b B Uhi f`] YV\ UVYf `Yhk Ug `ni `V] YhYb "`8] Y `? ca V] b Uh] cb `Ui g `? i `hi f`i b X B Uhi f`a UWX h`X] Y `F Y[] cb `ni `Y] b Ya `[Ubn `VYgc b XYfYb `N] Y``] b 8 Yi hg WX `Ub X "`5 `gc `g WX b Udd `X] f` XY] b Yb `F i W_g U W_ `i b X `Yb h XY W_Y X] Y `ZUgn] b] YfYb XYb `@Ub Xg WX UZhYb `;]Y * Ybg `i b X `gY] b Yf `I a [YVi b[`$

? i `]bUf]gW\Y'<][\`][\hg.'@Y\W_YfY]Yb'Ui g'XYf FY[]cb';]Y» Yb

8]Y`FY[]cb;]Y»Yb`]gh'b]W\h'bi f`ZØf`]\fY`ki bXYfgW\ÒbY
@UbXgW\UZhi bX`]\fY`fY]W\Y; YgW\]W\hY`VY_UbbhžgcbXYfb`Ui W\
ZØf`]\fY`_Ògh`]W\Yb`_i `]bUf]gW\Yb`5b[YVchY"'<]Yf`Yfk UfhYh'X]W\
Y]bY`J]Y`nU\``j cb`GdYn]U`]hÀhYbž`X]Y`b]W\h'bi f`XYb`; Ui a Yb
YfZfYi Ybž'gcbXYfb`Ui W\X]Y``c_U`Y`?i `hi f`k]XYfgd]Y[Y`b"@Ugg`i bg
Y]bhUi W\Yb`]b`X]Y`; YgW\a ÀW_Yfž`X]Y`;]Y»Yb`i bX`I a [YVi b[`ni V]YhYb`\UVYb°

9]b UVgc`i hYgʻA i ggʻZØfʻYXYbʻ: Y]bgWka YW_Yfʻ]ghʻX]Yʻ;]Y» YbYf GdYn]U`]hÀhʻ 8ÒbYfʻ? YVUV "'=b XYfʻGhUXhʻ[]VhʻYgʻnU\`fY]WkY =a V]ggghÀbXYžʻUVYfʻXUgʻ6YgcbXYfYʻ]bʻ;]Y» Ybʻ]ghʻX]YʻUi h\Ybh]gWkY Ni VYfY]hi b["'8]YʻZf]gWkYbʻNi hUhYbʻi bXʻX]Yʻ[Y\Y]a YbʻA Uf]bUXYb gcf[YbʻZØfʻY]bYbʻY]bn][Ufh][Ybʻ; YgWka UW_žʻXYfʻgY`VghʻX]Y Ubgdfi Wkgj c``ghYbʻ; Ui a YbʻØVYfnYi [h"

9]b'k Y]hYfYf'fY[]cbU`Yf': Uj cf]h']gh'XYf'< UbX_ÀgY'a]h'A i g]_"
8]YgY'\Ygg]gW\Y'?ÀgYgdYn]U`]hÀh'k]fX'cZh'a]h'Nk]YVY`bž'9gg][ž'²`ibX'; Yk ØfnYb'gYfj]Yfh"'8]Y' A i g]_ ']a 'BUa Yb'VYn]Y\h'g]W\'Ui Z X]Y'Nk]YVY`a Uf]bUXYž'X]Y'XYa '?ÀgY'gY]b'VYgcbXYfYg'5fca U j Yf`Y]\h"'<Ài Z]['k]fX'X]YgYf'GbUW_'a]h'Zf]gW\Ya 'DfÀg]XYbhYbVfch gYfj]Yfh' 'Y]bY'?ca V]bUh]cbž'X]Y'i bVYX]b[h'dfcV]Yfh'k YfXYb gc``hY'

K Ybb`Xi`bUW\`Y]bYa`\Yfn\UZhYb`; Yf]W\h`gi W\ghž`XUbb`]gh`

< Ui ga UW\Yf`K i fgh'[YbUi `XUg`F]W\h][Y`ZØf`X]W\"`8]YgY

fY[]cbU`Y`K i fghgdYn]U`]hÀh`k]fX`hfUX]h]cbY```\Yf[YghY``h`i bX`V]YhYh
Y]b`fY]W\\U`h][Yg`; YgW\a UW_gYf`YVb]g"`\D`j]Y`Yb`; Ugh\ÒZYb`i bX
FYghUi fUbhg`_Ubbgh`Xi `Ui W\j YfgW\]YXYbY`J Uf]Uh]cbYb`XYf`K i fgh
dfcV]YfYbž`cZh`U`q`HY]``Y]bYg`fi gh]_U`Yb`D`UhhYbUb[YVchq"

6Y] Y] bYa '6Ygi W. ']b';]Y» Yb'gc``hYgh'Xi 'Ui W. 'X]Y'J]Y`ZU`h'Ub' fY[]cbU`Yb'6]cV]YfYb'b]W. hij YfdUggYb"'8]Y'6fUi YfY]Yb']b'i bXi a ';]Y» Yb'\UVYb'g]W. 'XYa '6fUi Yb'j cb'\UbXk Yf_`]W. [YZYfh][hYb'6]YfYb'j YfgW.f]YVYb"'CV'j c``a i bX][Yg'D]`g'cXYf Ufca Uh]gW.Yg'K Y]» V]Yfž'\]Yf'[]Vh'Yg'ZØf'YXYb'6]Yf`]YV\UVYf Yhk Ug'ni 'YbhXYW_Yb"'6YgcbXYfg'Ya dZY\`Ybgk Yfh'g]bX'X]Y 6]Yf[AfhYbž'k c'Xi 'VY]'gW.ObYa 'K YhhYf'Y]b'_Ø\`Yg'; YhfAb_[Yb]Y» Yb'_Ubbgh"

 $: \emptyset f'X]Y'G\emptyset \rangle][_Y]hYb`]YV \setminus UVYf'ibhYf'YiWX'V]YhYh';]Y \rangle Yb'YVYbZU``gY]b][Y'`YW_YfY'Cdh]cbYb''8]Y'GWXkUfnkÀ`XYf'?]fgWXhcfhY'ibXXYf'Kifgh_iWXYbž'Y]bY'hfUX]h]cbY``Y'GØ \rangle gdY]gYž'g]bX'VY`]YVhY@YW_YfY]Ybž'X]Y'Xi'ibVYX]b[h'dfcV]YfYb'gc``hYgh''8]Y'`c_U`YDUh]ggYf]Y'nUiVYfh'Y]bn][Ufh][Y'8YggYfhg'ibX'HcfhYbž'X]Y'gckc\`gWX\Ob'UbnigY\Yb'U`g'UiWX'_\Ogh`]WX'g]bX''$

8]Y; Ya Y]bgW\UZhg!'i bX'K cW\Yba Àf_hYž'X]Y'fY[Y`a À»][']b;]Y»Yb'ghUhhZ]bXYbž'g]bX'XYf'dYfZY_hY'Cfhž'i a 'Zf]gW\Y'DfcXi_hY i bX'`c_U`Y'GdYn]U`]hÀhYb'X]fY_h'j cb'XYb'9fnYi [Yfb'ni '_Ui ZYb" <]Yf'_Ubbgh'Xi 'Zf]gW\Yg'CVgh'i bX'; Ya ØgYž'\UbX[Ya UW\hY'?ÀgY i bX'5i ZgW\b]hh'gck]Y'Y]bY'J]Y`nU\`'j cb'6UW_k UfYb'YbhXYW_Yb"'9g]gh'b]W\h'bi f'Y]bY'[fc»Ufh][Y'A Ò[`]W_Y]hž'X]Y'`c_U`Y'?i `hi f'ni Yf`YVYbž'gcbXYfb'Ui W\Y]bY'; Y`Y[Yb\Y]hž'X]Y'Ni hUhYb'ni dfcV]YfYbž'X]Y'X]Y'6Uq]q'ZØf'X]Y'_Oqh`]W\Yb'; Yf]W\hY'q]bX"

6Y`]YVhY`FYghUi fUbhg'i bX`7UZÅg']b';]Y»Yb

 $<]Yf^*]gh^*Y]bY^*5i gk U^**j cb^*fYbca a]YfhYb^*FYghUi fUbhg^*i bX^*7 UZ^AgZ^*X]Y^*X]Y^*_i ^]bUf]gWAYb^*; YbØggY^*XYf^*FY[]cb^*;]Y*Yb^*k]XYfgd]Y[Y^b.$

B Ua Y	6YgcbXYf\Y]h	Hmd

B Ua Y	6YgcbXYf\Y]h	Hmd
K]fhg\Ui g'Ua 'A Uf_h	HfUX]h]cbY``Y	FYghUifUbh
	\	
?UZZYY_ca a i bY	; ci fa Yh_UZZYY`i bX	7 UZÅ
	\Ui g[Ya UW\hY	
	?i WX Y b	
Ni a '?ØWXYbbUff	FY[]cbU`Y	FYghUifUbh
	GdYn]U`]hÀhYb'ibX	
	gU]gcbU`Y¨; Yf]W\hY	
8]Y [.] 6fYnY`VÀW_YfY]	: f]gW\Y`6fYnY`b`i bX	6ÀW_YfY]#7UZÅ
	UbXYfY [*] 6UW <u>k</u> UfYb	

CV'Xi 'bUWX'Y]bYa 'gWXbY``Yb'GbUW_']b'Y]bYa 'XYf'nU\`fY]WXYb 7UZÅgžY]bYa '\Yfn\UZhYb'A]hhU[YggYb']b'Y]bYa 'hfUX]h]cbY``Ya K]fhg\Ui g'cXYf'Y]bYa 'Y`Y[UbhYb'8]bbYf']b'Y]bYa '[Y\cVYbYb FYghUi fUbh'gi WXghž';]Y»Yb'\Uh'ZØf'YXYb';YgWXa UW_'Yhk Ug'ni V]YhYb"'8Ug'[Ughfcbca]gWXY'5b[YVch'XYf'GhUXh'gd]Y[Y`h'X]Y\Ygg]gWXY'HfUX]h]cb'k]XYf'i bX'n]Y\h':Y]bgWXa YW_Yf'Ui g'XYf I a [YVi b['Ub"

Ni gUa a Yb[YZUgghi]ghiX]Y _i `]bUf]gWXY GnYbYi]b;]Y»Yb `YV\UZh i bX 'UVk YWXg`i b[gfY]WX "'Jcb'hfUX]h]cbY`'Yb; Yf]WXhYb'ØVYf a cXYfbY =bhYfdfYhUh]cbYb'V]g'\]b'ni 'gØ»Yb'JYfgi WXi b[Yb''\]Yf Z]bXYghiXi 'U``Ygž'k Ug'XUg'<Yfn'VY[Y\fh"'9]b'6Ygi WX']b';]Y»Yb']gh U`gc'b]WXh'bi f'ZØf'X]Y'5i [Ybž'gcbXYfb'Ui WX'ZØf'XYb'; Ui a Yb'Y]b 9f`YVb]g°

?i`hi fY``Y'GW\AhnY.'A i gYYb'i bX'\]ghcf]gW\Y GhAhhYb'Yf_i bXYb

8]Y'GhUXh';]Y»YbžY]b[YVYhhYh']b'X]Y'a U`Yf]gW\Y'@UbXgW\UZh'j cb < YggYbž'VY\Y]a UhYh'Y]b'fY]W\Yg'_i `hi fY``Yg'9fVYž'XUg']b']\fYb A i gYYb'i bX'\]ghcf]gW\Yb'GhÀhhYb'`YVYbX]['k]fX"'J ca \]ghcf]gW\Yb'GhUXhnYbhfi a 'V]g'\]b'ni 'a cXYfbYb 5i gghY``i b[gfÀi a Yb'[]Vh'Yg']b';]Y»Yb'j]Y``ni 'YbhXYW_Yb'i bX'ni Yf`YVYb"

6Y[]bbYb'k]f'a]h'XYa'@U\b!AigYiaž'XUg'g]WX'\YfjcffU[YbX

 $Y][bYh\tilde{z}ia a Y f @VYf X]Y; YgWX]WX hY XYf GhUXh i bX] f Yf I a [YVi b['ni 'YfZU f Yb''] + b 'XYb' j YfgWX]YXYbYb' 5 i gghY ``i b[Yb k YfXYb' 5 f WX Ac `c[]Yž; YgWX]WX hYž B Uhi f_i bXY' i bX'gc[Uf X]Y Yh\bc`c[]gWXYb' 5 gdY_hY' XYf F Y[]cb'Y]bXfi W_gj c```df AgYbh]Yfh'' 9]b'VYgcbXYfYg' <][\`][\h']gh'X]Y'GUa a `i b['j cb'5 f hYZU_hYbž'X]Y V]g']b'X]Y'df A\]ghcf]gWXY'NY]h'ni <math>f @W_f Y$]WXYb'' 8 Yf' 6 Ygi WX' XYg @U\b!A i gYi a g']gh'b]WX h'bi f'`Y\ffY]WX Z'gcbXYfb'Ui WX'Y]bY k i bXYfVUfY'A $O[`]W_f Y]h$ Z'Y b'9]bV']W_']b'X]Y'fY[]cbU`Y \Rightarrow Ybh]hÀh'ni '[Yk]bbYb''

9]b'k Y]hYfYg'A i gg']gh'XUg'A Uh\Ya Uh]_i a ž'XUg'b]W\h'bi f';]Y» Ybg Fc``Y'U`g'I b]j Yfg]hÀhgghUXh'k]XYfgd]Y[Y`hž'gcbXYfb'Ui W\'Y]b]bhYfU_h]j Yg'9f`YVb]g'ZØf'\$\forall b['i bX'5`h'V]YhYh'''<]Yf'XfY\h'g]W\'U``Yg i a 'A Uh\Ya Uh]_'i bX'X]Y': fYi XY'Ua ': cfgW\Yb'', VYf'%) \$ 9I dcbUhY'`UXYb'X]Y'6Ygi W\Yf'XUni 'Y]bž'a Uh\Ya Uh]gW\Y'?cbnYdhY gd]Y`Yf]gW\'ni 'Yf_i bXYb'''8]Y'5ha cgd\ÀfY']gh'`YV\UZh'i bX'XUg A Uh\Ya Uh]_i a 'gYhnh'Ui Z'Y]bY'UbgW\Ui `]W\Y'JYfa]hh`i b[ž'X]Y gck c\`i bhYf\U`hgUa 'U`g'Ui W\'`Y\ffY]W\']gh''

: Øf; YgWk]Wk hg]bhYfYgg]YfhY]gh'Y]b '6Ygi Wk 'XYg'GhUXhUfWk]j g
;]Y*Yb j cb [fc*Yf'6YXYi hi b["'9g'VYk U\fh'X]Y'\]ghcf]gWkYb
8c_i a YbhY 'XYf'GhUXh'i bX 'Yfa Ò[`]Wk h'XYb 'Ni [Ub['ni 'Y]bYf
J]Y`nU\`'j cb 'A UhYf]U`]Ybž'X]Y 'X]Y '9bhk]W_`i b[';]Y*Ybg'j cb 'XYf
; fØbXi b['V]g'ni f'A cXYfbY 'Xc_i a Ybh]YfYb"'8]Y'fY[Y`a À*][Yb
J YfUbghU`hi b[Yb i bX '5i gghY``i b[Yb 'XYg'5fWk]j g'V]YhYb'Y]bYb
h]YZYb'6`]W_']b'X]Y'; YgWk]Wk hY'i bX'?i `hi f'XYf'FY[]cb"

9]bY'k Y]hYfY']bhYfYggUbhY'GhÀhhY']gh'XUg'6fi bc!@ÒgWXYb!<Ui gž XUg'b]WXh'bi f'U`g'K c\b\Ui gž'gcbXYfb'Ui WX'U`g'Cfh'ZØf'_i `hi fY``Y JYfUbghU`hi b[Yb'[Ybi hnh'k]fX"'9q']gh'Y]b'6Y]gd]Y``ZØf'XYb ?i bgh! i bX ?i `hi fj YfUbghU`hi b[YbZX]Y `\]Yf ghUhhZ]bXYbZ'g]bX Y]bYhc``Y'; Y`Y[Yb\Y]hž'i a '`c_U`Y'?Øbgh`Yf'_YbbYbni `YfbYb'i bX'Y]bYb

K Ybb 'Xi 'X]Y '_i `hi fY``Y '; YgW\]W\hY ';]Y » Ybg 'j Yfh]Y ZYb 'a ÒW\hYghž $Ya dZY \ Y']W Y]bYb GdUn]Yf[Ub[XifWXUg']ghcf]gWY$ GhUXhnYbhfi a žk c'nU\`fY]WXY'U`hY'; YVÀi XY'i bX'8Yb a À`Yf ahY\Yb"'8]Y'`]YVYj c```fYahUi f]YfhYb': UggUXYb'YfnÀ\`Yb ; YgWX]WXhYb'Ui g'j Yf[Ub[YbYb'NY]hYb'i bX``UXYb'XUni 'Y]bž'XUg GhUXhV]`X`ni 'Yf i bXYb"

 $< |Yf'|gh'Y|bY'_Y|bY'_VYfg|Wh'XYf'VYXYihYbXghYb$?i `hi fY]bf]\\\\ hi b[Yb']b';]Y» Yb.

9]bf]W\hi b[6YgcbXYf\Y]hYb
@U\b!AigYia	5fWXÀc`c[]gWXY'ibX
	$Yh\bc\c[]gWY'5i gghY``i b[Yb$
A Uh\Ya Uh]_i a	±5 hY fU_h]j Y '91 dcbUhY 'ni f
	A Uh\Ya Uh]_
9j Ub[Y`]gWXY'GhUXh_]fWXY	; ch]gWXY'5fWX]hY_hifibX
	?i bghk Yf_Y
GhUXhUfWX]j	<]ghcf]gW\Y`8c_i a YbhY`i bX
	JYfUbghU`hi b[Yb
6fi bc!@ÒgWXYb! <ui g<="" td=""><td>?i`hi fY``Y`JYfUbghU`hi b[Yb'i bX</td></ui>	?i`hi fY``Y`JYfUbghU`hi b[Yb'i bX

5i gghY``i b[Yb

Ni gÀhn`]WX ni 'X]YgYb'<][\`][\hg'Z]bXYb']b';]Y»Yb'fY[Y`a À»][$?ibgh!ibX?i`hifZYgh]jU`g`ghUhhžX]Y`g]WX`\YfjcffU[YbX`Y][bYbž$ ia XUg'_ØbghYf]gWXY'GWXUZZYb'XYf'FY[]cb'ni ZY]Yfb'ibX'ni YbhXYW Yb"8]YgY'J YfUbghU`hi b[Yb'V]YhYb'Y]bY'D`UhhZcfa ZØf `c U`Y'?Øbgh`Yf'i bX'n]Y\Yb'6Ygi W\Yf'Ui g'XYf'[UbnYb'l a [YVi b[Ub"

8 | Y : Ø``Y 'Ub ' i `hi fY``Yb 'GWX À hnYb ']b ; | Y » Yb ']qh'Y]b '6 Yk Y]q 'XUZØfž XUgg'X]YgY'GhUXh'a Y\f'ni 'V]YhYb'\Uh'U`g'bi f']\fY'gW\ObY'BUhi f" CV'Xi'?ibghž; YgWX]WXhY'cXYf'K]ggYbgWXUZh'gWXÀhnhž;]Y»Yb'\Uh

U``Yg` i bX``ÀXh`XUni 'Y]bž`X]Y`j]Y`ZÀ`h][Yb`: UWYhhYb`XYf`GhUXh`ni Yf_i bXYb"'K Ybb`Xi 'h]YZYf`]b`X]Y`_i `hi fY``Yb`5b[YVchY`Y]bhUi W\Yb a ÒW\hYghž`VYgi W\Y`k k k "[]YggYb"XY`ZØf`U_hi Y``Y` \pm 0 Zcfa Uh]cbYb ni '5i gghY``i b[Ybž'JYfUbghU`hi b[Yb`i bX`k Y]hYfYb JYfUbghU`hi b[Yb`]b`X]YqYf`VYa Yf_Ybgk YfhYb`GhUXh"

5_h]j i f`Ui V. Ci hXccf!5VYbhYi Yf`ZØf 5VYbhYi Yf`i gh][Y

8]Y'W\Ufa UbhY'GhUXh;]Y»Yb'i bX']\fY'l a [YVi b['V]YhYb'Y]bY
: Ø``Y'j cb'A Ò[`]W_Y]hYb'ZØf'5VYbhYi Yf`i gh][Yž'X]Y'Y]bYb'U_h]j Yb
I f`Ui V'j YfVf]b[Yb'a ÒW\hYb"'CV'K UbXYfbž'FUXZU\fYb'cXYf
K UggYfgdcfh' '\]Yf']gh'ZØf'YXYb'Yhk Ug'XUVY]"'8]Y'a U`Yf]gW\Yb
@UbXgW\UZhYb'i bX'X]Y'[i h'Ui g[YVUi hY'\DZfUghfi _hi f'a UW\Yb
;]Y»Yb'ni 'Y]bYa ']XYU`Yb'5i g[Ub[gdi b_h'ZØf'i bj Yf[Ygg`]W\Y
Ci hXccf!9f`YVb]qqY"

9]b'<][\`][\h'ZØf'K UbXYfZfYi bXY']gh'XYf'@U\bk UbXYfk Y[ž'XYf Ybh'Ub['XYg'a U`Yf]gW\Yb'@U\bZi ggYg'j Yf`Ài Zh"'8]YgY fci hYbZÒfa][Y'K UbXYfi b['ZØ\fh'Xi fW\'k i bXYfgW\ÒbY'K À`XYfž K]YgYb'i bX'_`Y]bY'8 ÒfZYf"'8]Y'K Y[Y'g]bX'[i h'a Uf_]Yfh'i bX V]YhYb'j YfgW\]YXYbY'GW\k]Yf][_Y]hg[fUXYž'gcXUgg'gck c\` 5bZÀb[Yf'U`g'Ui W\ 'YfZU\fYbY'K UbXYfYf'Ui Z']\fY'?cghYb'_ca a Yb" 5i Z'XYa 'K Y['`UXYb'nU\`fY]W\Y'6Àb_Y'i bX'5i gg]W\hgdi b_hY'Y]bž i a 'X]Y'\Yff`]W\Y'BUhi f'ni '[Yb]Y»Yb"

B]Wkhik Y]hij cb;]Y»Yb YbhZYfbhïVYZ]bXYhig]Wk iXUgiK U`X[YV]Yh;]Y»YbYfiK U`XžiXUgia]higY]bYbij]Y`ZÀ`h][YbiK UbXYfk Y[Ybž FUXghfYW_Ybii bX VYY]bXfi W_YbXYbi5i gV`]W_Ybidi b_hYh" <]Yf _Ubbia UbiX]Y iGYY`Y iVUi a Y`bi`UggYbžik À\fYbXia UbiX]Y iFi\YiXYf BUhi fii bX iX]Y iZf]gWk Yi@i Zhi[Yb]Y»h" 5i »YfXYa i[]VhiYgiY]bYb BUhi fYfYVb]gdZUXžiXYfigdYn]Y``iZØfi: Ua]`]Ybii bXi?]bXYfi[YghU`hYh k i fXYii bXib]Wkhibi fiGdU» a UWkhžiqcbXYfbiUi WkiiY\ffY]Wki]gh"

5_h]j]hÀhYb	CfhY	6YgcbXYf\Y]hYb
K UbXYfb	@U\bk UbXYfk Y[A U`Yf]gWXY
		5i gV`]W <u>_</u> Y
F UXZU\fYb	?fYi ni b[ˈj cb	: Øf'U``Y

5_h]j]hÀhYb	CfhY	6YgcbXYf\Y]hYb
	FUXk Y[Yb	GWkk]Yf][_Y]hg[fUXY
?Ubi ZU\fYb	@U\b	; Ya Øh`]WXY
		6cchgZU\fhYb

 $: \emptyset f `F UX`]YV \setminus UVYf`V]Y hY h `g]W `X]Y`; Y`Y[Yb \setminus Y]hz`X]Y`@Ub XYgghfU `Y i b X `X]Y`nU \`fY]W Yb `F UXk Y[Y`fi b X`i a `;]Y `y Yb `ni `Yf_i b XYb "`8]Y FY[]cb `\ Uh`Y]b `[i h`Ui g[YVUi hYg`F UXk Y[YbYhnz`XUg`gck c \`Yb hgd Ub b hY`@Ub XgW UZhghci fYb`U`g`Ui W `\ YfUi gZcfXYfb XY A ci b hU]b V]_Y!GhfY W_Yb `i a ZUggh" 8]Y`Yhk U`&$`?]`ca YhYf``Ub[YGhfY W_Y `Ybh`Ub[`XYf`@U\b`[]Vh`F UXZU\fYfb`b]W h`bi f`X]Y A <math>O[`]W _Y]hz`X]Y`B Uhi f`ni`[Yb]Y `y Ybz`gcb XYfb`Ui W `X]Y W Ufa Ub hYb`C fhY`Ybh`Ub[`XYg`: `i ggYg`ni`YbhXYW_Yb"$

K Yf'XUg'K UggYf'`]YVhž'Z]bXYh']b'XYf'I a [YVi b['j cb';]Y»Yb X]j YfgY'K UggYfgdcfha Ò[`]WX_Y]hYb"'8]Y'@U\b'Y][bYh'g]WX\Yfj cffU[YbX'ni a '? Ubi ZU\fYb'i bX'GhUbX'I d'DUXX`]b["'9g []Vh'j YfgWX]YXYbY'5bV]YhYfž'X]Y'gck c\`; fi ddYb!'U`g'Ui WX 9]bnY`j Yfa]Yhi b[Yb'ZØf'6cchY'UbV]YhYb": Øf'5bZÀb[Yf'[]Vh'Yg gc[Uf'[YZØ\fhY'Hci fYbž'X]Y'XUg'DUXXY`b']b'XYf']Xm``]gWXYb I a [YVi b['UbgdfYWXYbX'i bX'g]WXYf'[YghU`hYb"

9]b k Y]hYfYg gdUbbYbXYg 5VYbhYi Yf k UfhYh]b XYb B YUfVm 5Xj Yb hi fY DUf_g" 5hhfU_h]cbYb k]Y XUg < c W gY]`[UfhYb ;]Y » Yb V]YhYb BYfj Yb_]hnY`]b ``i Zh][Yf < Ô\Yž k À\fYbX` DU]b hV U``! i b X '9gWUd Y!F c ca !9f`YVb]ggY X]Y A Ô[`]W_Y]h V]YhYbž g]W\]b HYUa g ni gUa a Ybni hi b ` dYfZY_h ZØf: fYi bXY cXYf: Ua]`]Ybž X]Y [Ya Y]bgUa 'U_h]j 'gY]b a ÔW\hYb" 8]YgY 5_h]j]hÀhYb 'ZÔfXYfb 'b]W\h'bi f'HYUa [Y]ghž gcbXYfb 'Ui W\ Gdcfh`]W_Y]hi bX '5i gXUi Yf"

 $: \emptyset f `B Uhi f`] YV \setminus UVY f `Ya d Z] Y \setminus `h `g] W. `Y] b `6 Y gi W. `XY g `6 c h Ub] g W. Yb ; Uf h Y b g `X Y f `$i ghi g! @] Y V] [!I b] j Y f g] h Å h `;] Y * Y b " <] Y f `_Ub b a Ub `Xi f W. ``] Y V Y j c ``` [Y g h U `h Y h Y `D Z Ub n Y b `Ub X g W. U Z h Y b `g W. `Y b X Y f b i b X `a Y \ f `Ø V Y f `X] Y : `c f U `X Y f `F Y [] c b `Y f Z U \ f Y b " Ni X Y a `g] b X n U \ `f Y] W. Y `J Y f Ub g h U `hi b [Y b `i b X `: Ø \ f i b [Y b `] a a Y f `k] Y X Y f `Y] b Y h c ``Y `A O [`] W. _Y] h ž `a Y \ f `Ø V Y f `X] Y `\] Y g] [Y `B Uhi f `ni ``Y f b Y b `i b X `g] W. U _h] `i a] h `X Y b `H \ Y a Y b `I a k Y `h! `i b X `B Uhi f g W. i h n$

8]Y'FY[]cb'fi bX'i a ;]Y»Yb']gh'gca]h'Y]b'k U\fYg'9`XcfUXc'ZØf U``Yž'X]Y'Y]bYb'U_h]j Yb'i bX'UVYbhYi Yf`]W\Yb'I f`Ui V'j YfVf]b[Yb a ÒW\hYb"A]h']\fYb'j]Y`gY]h][Yb': fY]nY]hU_h]j]hÀhYb'i bX'XYf UhYa VYfUi VYbXYb'BUhi f'n]Y\h'g]Y'Ci hXccf!9bh\i g]UghYb'Ui g'bU\i bX'ZYfb'Ub"'9[U``cV'G]Y'[YfbY'\cW\'\]bUi g'cXYf'VfUj 'Ua 'K UggYf YbhgdUbbYb'a ÒW\hYbž';]Y»Yb'i bX'gY]bY'I a [YVi b['\UVYb'ZØf YXYb'5VYbhYi Yf`i gh][Yb'Yhk Ug'ni 'V]YhYb'

9]b\Y]a]gW\Y'J YfUbghU`hi b[Yb'i bX': YghYž X]Y'Xi 'b]W\h'j YfdUggYb'gc``hYgh

;]Y» YbžY]bY GhUXhžX]Y ZØf]\fY ``YV\UZhY 5 ha cgd\AfY i bX]\fY\\Yfn`]WXYb '9]bk c\bYf'VY_Ubbhi]ghžV]YhYhXUg [UbnY '\$U\f'ØVYfY]bY 'J]Y`nU\``j cb 'JYfUbghU`hi b[Yb i bX : YghYb" '8]YgY : YghY 'g]bXb]WXh'bi fY]bY [fc» Ufh][Y'A O[`]WX_Y]hžX]Y ``c_U`Y '?i `hi f_YbbYbni `YfbYbžgcbXYfb 'Ui WX 'Y]bY ; Y`Y[Yb\Y]hža]h 9]b\Y]a]gWXYb ']bg'; YgdfAWX 'ni '_ca a Yb i bX 'X]Y 'Y]bn][Ufh][Y Gh]a a i b['XYf'GhUXh'ni 'Yf`YVYb"'<]Yf'g]bX'Y]b][Y JYfUbghU`hi b[Yb i bX : YghYžX]Y 'Xi 'VY]'XY]bYa '6Ygi WX 'b]WXh j YfdUggYb'gc``hYgh

- ;]Y» YbYf'K Y]\bUW hga Uf_h. 8Yf'K Y]\bUW hga Uf_h']b ;]Y» Yb']gh'Y]b'UVgc`i hYf'< O\Ydi b_h'XYf'ZYgh`]W\Yb \$J\fYgnY]h''9f'Z]bXYh']b'XYf'\]ghcf]gW\Yb'5`hghUXh'ghUhhii bX V]YhYh'Y]bY'J]Y`nU\`'j cb'Gh\AbXYb\Z'Ub'XYbYb'Xi \UbX[YZYfh][hY'; YgW\Yb_Y\Z'Y]b\Y]a]gW\Y'@YW_YfY]Yb'i bX ; `Ø\kY]b'[Yb]Y» Yb'_Ubbgh''8]Y'ZYgh`]W\Y'6Y`Yi W\hi b[i bX'X]Y'ZfO\`]W\Y'Gh]a a i b['a UW\Yb'XY]bYb'6Ygi W\ i bj Yf[Ygq`]W\"
- ;]Y» YbYf? i `hi fgca a Yf. '\(\fi\)XYg'\(\fi\)\ f']a 'Gca a Yf'k]fX ;]Y» Yb'ni a 'GW\(\text{Ui d`Uhn'Y}\)bYf'\(\FY\)\\Y'_i `hi fY``\Yf JYfUbghU`hi b[Yb"'@c_U`Y'? \(\D\)bgh`\Yf\(\fi\)A i g]_Yf'i bX'DYf\(\fi\)cfa Yf hfYhYb']b'DUf_g'i bX'Ui Z'D`\(\A\)hnYb'Ui Z"Jcb'?cbnYfhYb'\(\O\)VYf H\\YUh\YfUi \(\fi\)b[Yb'\V]g'\]b'ni '?i bghUi gghY``i b[Yb' 'XYf ?i `hi fgca a Yf']gh'Y]b': Ygh'\(\fi\)Of'U``Y'G]bbY"
- K Y`h_]bXYfhU[.5a K Y`h_]bXYfhU[f&\$"GYdhYa VYfŁk]fX

]b;]Y» Yb 'Y]b '[fc» Yg': Ygh 'ZØf'?]b XYf'cf[Ub]g]Yfh" 'A]h Gd]Y 'Ybž'K cf_g\cdg'i b X'?]b XYfi b hYf\ U`hi b['V]YhYh 'X]YgYf HU['Y]b Y 'Vi b hY 'DU 'YhhY 'ZØf'X]Y '? 'Y]bghYb" '9`hYfb 'i b X ?]b XYf'\ UVYb '\]Yf'X]Y 'A Ò[`]WX_Y]hž'[Ya Y]bgUa 'NY]h 'ni j YfVf]b[Yb 'i b X'b Yi Y': fYi b XgWX UZhYb 'ni 'gWX`]Y» Yb"

9]b'k Y]hYfYg'\Yfj cffU[YbXYg'6Y]gd]Y`'ZØf'X]Y'`YVYbX][Y JYfUbghU'hi b[ggnYbY'XYf'GhUXh']gh'XUg.

8 Uhi a	JYfUbghU`hib[Cfh
5df]`	;]Y»YbYf GhUXhZYgh	⇒bYbghUXh;]Y»Yb
 	CdYb'5]f'?]bc	6chUb]gWXYf; UfhYb
5i [igh	;]Y»Yb¾nn': Ygh]j U`	J YfgW\]YXYbY
		@cWUh]cbg
8YnYa VYf	5XjYbhgg]b[Yb	A Uf_hd`Uhn';]Y»Yb

8 Ugʻ;]Y» YbYfʻGhUX hZYghžʻXUgʻYXYgʻJ\fʻ]a ʻ5df]``ghUhhZ]bXYhž n]Y\hʻHUi gYbXYʻj cbʻ6Ygi WXYfbʻUb"'<]Yfʻ_UbbghʻXi ʻfY[]cbU`Y?Ògh`]WX_Y]hYbžʻ?i bgh\UbXk Yf_ʻi bXʻ@jj Y!A i g]_ʻ[Yb]Y» Yb" JYfgWX]YXYbYʻGhÀbXYʻi bXʻ5hhfU_h]cbYbʻgcf[YbʻXUZØfžʻXUggʻZØf YXYbʻYhk UgʻXUVY]`]gh"'9]bʻUVgc`i hYgʻA i ggʻZØfʻ: Ua]`]Ybʻi bX : fYi bXYž'X]YʻY]bYʻ[i hYʻNY]h'ni gUa a Ybʻj YfVf]b[Ybʻa ÒWXhYb"

K Ybb'Xi '[YfbY'X]Y'5ha cgd\ÀfY'j ca ': fY]'i Zh_]bc'[Yb]Y» Yb a ÒW hYghž'XUbb']gh'XUg'C dYb'5]f'?]bc']a 'Gca a Yf'Y]bY [fc» Ufh][Y'A Ò[`]W_Y]hž'Y]bYb'k Ufa Yb'5VYbX'ni 'j YfVf]b[Yb":]'a Y'i bhYf'XYa 'GhYfbYb\]a a Y`'i bX'XUg'[Ya Øh']W\Y'5a V]YbhY a UW\Yb'XUg'9f`YVb]g'i bj Yf[Ygg`]W\"'8Yf'6chUb]gW\Y'; UfhYb V]YhYh'X]Y'dYfZY_hY'?i ']qqY'ZØf'qc`W\'_i 'hi fY``Y'JYfUbqhU'hi b[Yb"

I bX'j Yf[]gg'b]W\h'XUg'**5Xj Ybhgg]b[Yb**']a '8YnYa VYf"'9g']gh'Y]bY

\YfnYfk Àfa YbXY'HfUX]h]cbž'X]Y'ni gUa a Yb'a]h'XYa

K Y]\bUW\hga Uf_h'X]Y'J cfZfYi XY'Ui Z'XUg': Ygh'ghY][Yfh"'<]Yf

j YfgUa a Y`b'g]W\'A YbgW\Yb'U``Yf'5`hYfg[fi ddYbž'i a '[Ya Y]bgUa

K Y]\bUW\hg`]YXYf'ni 'g]b[Yb'i bX'X]Y'VYg]bb`]W\Y'Gh]a a i b['ni
[Yb]Y» Yb"

9gʻ]ghʻ_`UfžXUggʻ;]Y» Ybʻa]hʻgY]bYbʻnU\`fY]WX YbʻJ YfUbghU`hi b[Yb i bXʻ: YghYbʻY]bYbʻY][YbYbʻ7\Ufa Yʻ\UhžXYfʻX]Yʻ; ÀghYʻVY[Y]ghYfh i bXʻX]Yʻ9]b\Y]a]gWX Ybʻni gUa a YbVf]b[hʻʻC VʻXiʻbi bʻUbʻY]bYa XYfʻ[fc» Ybʻ: YghYʻhY]`b]a a ghʻc XYfʻUbʻXYbʻ_`Y]bYfYbžʻ]bh]a YfYb J YfUbghU`hi b[Ybž'X]YʻGhUXhʻV]YhYhʻY]bYʻVi bhYʻDUʻYhhYʻni a ': Y]Yfb i bXʻ; Yb]Y» YbʻʻBi hnYʻX]Yʻ; Y`Y[Yb\Y]hž'XUgʻUi h\Ybh]gWXYʻ;]Y» Yb ni `Yf`YVYbʻi bX'j]Y``Y]WXhY]bʻdUUfʻbYi Yʻ: fYi bXY'ni `Z]bXYb°

K Y]hYfY *\darkazcfa Uh]cbYb'ni 'XYb'_ca a YbXYb'JYfUbghU'hi b[Yb_Ubbgh'Xi 'Ui Z'XYf'cZZ]n]Y``Yb'K YVgY]hY'j cb';]Y » Yb'Z]bXYb"

8 Y hU]`g

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. 'Y]bY!fY]gY "XY