

H\Øf]b[Ybg'K À`XYf']b'Bch.'6| B8'ZcfXYfh Xf]b[YbXY'FYZcfa Yb

8 Y f '6 I B 8 'H\Øf]b[Y b 'k Ufbh'j cf'Y]bYf 'O_c`c[]gWX Y b '? f]gY ']b XY b 'K À`XY fb 'XY g '@UbXY g 'i bX 'ZcfXY fh'gc Zcfh][Y 'A U» bU\a Y b XY f '@UbXY g f Y []Y fi b["

8]Y'U_hi Y``Y'G]hi Uh]cb'XYf'K À`XYf']b'H\Øf]b[Yb'`Àggh'j]Y`Y'6Øf[Yf VYgcf[h'Ui ZV`]W_Yb"'8Yf'6I B8'H\Øf]b[Yb'\Uh']b'Y]bYa 'bYi Yb 6Yf]W\h'U`Ufa]YfYbXY': U_hYb'j YfÒZZYbh`]W\hž'X]Y'Ui Z'Y]bY Xf]b[YbXY'Ò_c`c[]gW\Y'?f]gY'\]bk Y]gYb"

8]Y'Ò_c`c[]gWXYb'5i gk]f_i b[Yb'XYf K U`XgWXÀXYb

: Ugh'%) \$"\$\$\$`< Y_hUf'K U`XZÀWXY`\UVYb`]\fY'i fgdfØb[`]WXY
GWXÒb\Y]hii bX'V]c`c[]gWXYb'J]Y`ZU`h'Y]b[YVØ» h"'8]YgYg'5i ga U»
\Uh'b]WXh'bi f'X]fY_hY'Ò_c`c[]gWXYb': c`[Ybž'k]Y'X]Y'NYfghÒfi b[
j cb'@YVYbgfÀi a Yb'ZØf'H]YfY'i bX'DZUbnYbž'gcbXYfb'k]f_h'g]WX
Ui WX'Yf\YV`]WX'Ui Z'X]Y'U``[Ya Y]bY'I a k Y`hei U`]hÀh'Ui g"

*bgVYgcbXYfY'X]Y'fY[]cbU`Y': `cfU'i bX': Ui bU'g]bX'a Ugg]j
[YZÀ\fXYh"

8f]b[`]WXY'AU»bU\aYb'YfZcfXYf`]WX

I a 'X]Y'k]YXYf\YfghY``i b[gVYXØfZh][Yb'FY[]cbYb'ni 'gW\ØhnYbž\Uh'XYf'6I B8'Y]bYb'A U» bU\a Yb_UhU`c['YfghY``hž'XYf'gcZcfh][Y ŸbXYfi b[Yb']b'XYf'K U`Xbi hni b[gdc`]h]_'ZcfXYfh"'Gc'gc``Yb'ni a 6Y]gd]Y``]b'GW\i hn[YV]YhYb'_Y]bY'b]W\h\Y]a]gW\Yb'6Ui a UfhYb a Y\f'[YdZUbnh'k YfXYb"'8]Yg'hfÀ[h'XUni 'VY]ž'X]Y'bUhØf`]W\Y 5fhYbj]Y`ZU`h'ni 'VYk U\fYb"'K]ggYbgW\UZh`]W\Y'Ghi X]Yb'VY`Y[YbžXUgg'\Y]a]gW\Y'6Ui a UfhYb'VYggYf'Ub[YdUggh'g]bX'i bX'X]Y

6Yfi Zg[fiddYb VYbOh][Yb IbhYfghØhnib[

8]Y'A YbgWXYbž'X]Y'hÀ[`]WX']a 'K U`X'UfVY]hYbž'k]Y': cfghk]fhY'i bX K U`XUfVY]hYfž'ghY\Yb'j cf'[fc»Yb'<YfUi gZcfXYfi b[Yb"'=\fY'5fVY]h gc``hY'b]WXh'bi f'VYggYf'UbYf_Ubbhž'gcbXYfb'Ui WX'a]h'a Y\f FYggci fWYb'i bhYfghØhnh'k YfXYb"'Ni XYa 'k]fX'Y]bY'FYXi n]Yfi b[XYf']bXi ghf]Y``Yb'Bi hni b['j cb'<c`n'U`g'9bYf[]YhfÀ[Yf'U`g bchk YbX]['YfUWXhYhž'i a 'X]Y'bUWX\U`h][Y'9bhk]W_`i b['XYf'K À`XYf ni 'ZÒfXYfb"

$8Yf'H\setminus \emptyset f]b[Yf'KU'X'ibX'gY]bY:c'[Yb$

 $6 YgcbXYfg "ghUf_"VYhfc ZZYb "g]bX "XUg"H\Øf]b[Yf"GWX]YZYf[YV]f[Y ibX"XYf"H\Øf]b[Yf"K U"X"gY"Vgh"" <]Yf"g]bX"X]Y "5 i gk]f_i b[Yb"XYg K U"XghYfVYbg"VYfY]hg "g]WX hVUfž"XUfi bhYf"9fcg]cbž"\Ài Z][YfY < cWX k UggYfYfY][b]ggY" ibX", VYf\]hni b["XYf"@UbXgWX UZh""8]YgY DfcV"Ya Y"hfYZZYb"b]WX h'bi f"X]Y"Ia k Y"hž"gcbXYfb"Ui WX"X]Y 5 bk c\bYf" ibX"I f"Ui VYfž"X]Y"Ui Z"X]Y"bUhØf"]WX Yb"GWX Ob\Y]hYb" ibX X]Y"9f\c"i b["]b"X]YgYb"FY[]cbYb"Ub[Yk]YgYb"g]bX"$

9]b @]W hV `]W_ ']a '8 i b_Y `

 $: fUb_'<Yb_Y`ž`XYf`GdfYWXYf`XYg`5fVY]hg_fY]gYg`K U`X`XYg`61 B 8 \\ H\Øf]b[Ybž`\YVh`\Yfj cfž`XUgg`Yg`< cZZbi b[`[]Vh"`9f`VYhcbhž`XUgg X]Y`@Ògi b[Yb`ZØf`X]YgY`<YfUi gZcfXYfi b[Yb`]b`XYf`<UbX`XYf A YbgWXYb``]Y[Yb"` K]f`a ØggYb`Yhnh`\UbXY`bž`VYj cf`Yg`ni `gdÀh]gh"`8]Y`I bhYfgWXf]Zh`i bhYf`i bgYfYb`: cfXYfi b[g_UhU`c[`]gh`Y]b GWXf]hh`]b`X]Y`f]WXh][Y`F]WXhi b[ž`gU[h`<Yb_Y`"$

8]Y'U_hi Y``Y'@U[Y']b'H\Øf]b[Ybg'K À`XYfb']gh'Y]b'K YW_fi Z'Ub'U``Yž X]Y'g]W\'ZØf'X]Y'I a k Y`h'Y]bgYhnYb"'8]Y'UbghY\YbXYb 9bhgW\Y]Xi b[Yb'XYf'ni _ØbZh][Yb'@UbXYgfY[]Yfi b['_ObbhYb k Y]hfY]W\YbXY'5i gk]f_i b[Yb'Ui Z'X]Y'2 _c`c[]Y'i bX'X]Y @YVYbgei U`]hÀh']b'XYf'FY[]cb'\UVYb"'9]b'GW\k Yfdi b_h'Ui Z bUW\\U`h][Y': cfghk]fhgW\UZh'i bX'XYb'GW\i hn'XYf'bUhØf`]W\Yb

 $\label{thm:continuous} FYggci fWb']gh'YbhgWXY]XYbXž'i a 'ni 'j Yf\]bXYfbž'XUgg'X]Y'K À`XYf H\Øf]b[Ybg'kY]hYf'gWXÀX][Yb"$

8 YhU]`g

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. 'X]Y!bUWX f]WX hYb "bYh