

## GWXi `[fØbXi b[g!J]g]cbÀf`A YmYf`[Y\hbUWX`&\$`>U\fYb`]b`XYb`Fi\YghUbX°

GhYZUb 'A YmYf'hf]hh'bUW\'' \$'\\J\fYb']a 'GW\i 'j YfY]b'XYf [fÒ» hYb'ZfY]Yb'GW\i 'Y']b'7\Ya b]hn']b'XYb'Fi\YghUbX'''K Ug g]bX'gY]bY'9fZc`[Y3



 $7 \ Yab]hnž8YihgWX `UbX'!BUWX'ØVYf''$'\lambda 'GWXi'jYfY]bib X'&$\lambda \lambda 'YfZc' [fY]WXYf'@Y]hib ['jYfUVgWX]YXYhrg]WX'GhYZUb AYmYf']b'XYb'Fi\YghUbX'''5b'Y]bYa'VYgcbXYfYb'Cfhž'XYa 9j Ub [Y']gWXYb'GWXi'nYbhfia']b'7\Yab]hnžØVYf[]Vh'Yf'X]Y'NØ[Y`Y]bYf'\dagba \lambda \lambda ']b'7\Yab]hnžØVYf[]Vh'Yf'X]Y'NØ[Y`Y]bYf'\dagba \lambda \lambda \lambda ']b'7\Yab]hnžØVYf[]Vh'Yf'X]Y'NØ[Y`Y]bYf'\dagba \lambda \lambda \lambda \lambda ']b'7\Yab]hnžØVYf[]Vh'Yf'X]Y'NØ[Y`Y]bYf'\dagba \lambda \$ 

8 Yf'K UbXY`XYf'GW\i `Y'i bhYf'A YmYfg': Ø\fi b['k Uf
VYY]bXfi W\_YbX"'9f'\_cbbhY'b]W\h'bi f'XUg' \(\frac{1}{2}\)hYfYggY'XYf'GW\Ø`Yf
i bX'9`hYfb'[Yk]bbYbž'gcbXYfb'Ui W\'Y]bY'dcg]h]j Y'@YfbYfZU\fi b[
gW\UZZYbž'X]Y'g]W\']b'XYf'6Y`]YVh\Y]h'XYf'9]bf]W\hi b[
k]XYfgd]Y[Y`h"'8Yf'5VgW\]YX'j cb'A YmYf'a Uf\_]Yfh'b]W\h'bi f'XUg
9bXY'Y]bYf'ŸfUž'gcbXYfb'Ui W\'XYb'GhUfh']b'Y]bY'bYi Y'D\UgY'ZØf
XUg'GW\i `nYbhfi a ž'XUg'k Y]hYf\]b'Ui Z'Y]bY'ghUf\_Y'BUW\ZfU[Y\cZYb'\_Ubb"

## 8]YZ]bUbn]Y``YG]WXYfY]h]aFiYYghUbX

9]b 'H\ Ya Už' XUg' ZØf'; YgW\ À ZhgZØ\ fYf'k ]Y 'A YmYf' VYgcb XYfg fY 'Yj Ubh']ghž']gh' X]Y '5 'hYfgj cfgcf[ Y"'C Zha U'g'nU\ 'Yb ; YgW\ À ZhgZØ\ fYf'b]W\ h']b 'X]Y '[ YgYhn']W\ Y'F YbhYbj Yfg]W\ Yfi b[ 'Y]b cXYf'\UVYb 'bi f'i b[ YbØ[ YbXY'F YbhYbUbgdfØW\ Y"'K ]Y 'Ui Z hfUbgdUfYbh! VYfUhYb "XY'Y]bXfi  $W_g$ j c``'Yf\_`Àfh'k ]fXž'\_Ubb 'X]Y VYhf]YV`]W\ Y'5 'hYfgj cfgcf[ Y'Y]bY'A O() ']W\ \_Y]h'XUfghY``Ybž'X]YgY FYbhYb`Ø\ \_Yb'ni 'gW\ ']Y\ Yb''=\bgVYgcbXYfY'ZØf'; YgY``gW\ UZhYf! ; YgW\ À ZhgZØ\ fYfž'XYfYb'Z]bUbn]Y``Yb'A O() ']W\ \_Y]hYb'i bX 5bgdfØW\ Y'cZh'ØVYf'XYa '8i fW\ gW\ b]hh'`]Y[ Ybž']gh'Y]bY'[ i h Xi fW\ XUW\ hY'J cfgcf[ Y'Ybhg\\ Y]XYbX"

?i fn'[ YgU[ h. 'K À\ fYbX'Ub[ YghY``hY'; YgW\ÀZhgZØ\ fYfgcn]U`j Yfg]W\Yfi b[ gdZ]W\h][ 'g]bX'i bX']b'X]Y'[ YgYhn`]W\Y FYbhYbj Yfg]W\Yfi b[ 'Y]bVYnU\`Yb'a ØggYbž'[ ]`h'X]Yg'ZØf' $\pm$ b\UVYf!; YgW\ÀZhgZØ\fYf'cZh'b]W\h''8]YgY'\_\ObbYb'YXcW\'ZfY]k ]``][ Y 6Y]hfÀ[ Y'`Y]ghYb'cXYf'UbXYfY'A cXY``Y'k À\`Ybž'`YhnhYbX`]W\']gh'X]Y Z]bUbn]Y``Y'5Vg]W\Yfi b[ ']a '5`hYf'UVYf'i bYf`Àgg`]W\'"

## 6Yhf]YV`]WXY'5`hYfgj cfgcf[Y']a '8YhU]`

9]b][Y'k]W\h][Y'Cdh]cbYb'XYf'VYhf]YV`]W\Yb'5`hYfgj cfgcf[Yia ZUggYb'X]Y'9bh[Y`hia k UbX`ib['cXYf'8]fY\_hnigU[Ybž'X]Y'g]W\jcf'U`Ya'ZØf'; YgY``gW\UZhYf!; YgW\ÀZhgZØ\fYf'U`g'g]bbj c``Yfk Y]gYb'\_ObbYb'''@Uih'<UiZY'[]Vh'Yg'VY]'XYf
6Yhf]YVgfYbhYbfYZcfa'fbFG; Ł'BYi][\_Y]hYb.'8Yf'<OW\ghVY]hfU[nif'V5J'kifXY'jcb'(I'UiZ', I'Yf\O\hž'kUg'Y]bY'YbhgW\Y]XYbXY
9f\O\ib['XYf'A\f`]W\Yb'GdUfa\O[`]W\\_Y]hYbž'U`gc'UiZ'V]g'ni

 $\label{thm:continuous} $$\dot{Y}^* YgY^*gWXUZhYf!; YgWXAZhgZØ\fYfb^*\]b[Y[Yb^*V]YhYh^*X]YgYfGWXf]hh^*X]Y^*A O[^*]WX_Y]hz^*]\fY^*VYfY]hg^*Ub[YgdUfhYb^*A]hhY^*[Yn]Y^h^*niYf[AbnYb^*^9g^*]gh^*niXYa^*k]WXh][z^*XUgg^*YbhgdfYWXYbXYDYbg]cbgnigU[Yb^*ibhYf^9]b\U^*hib[^*jcb^*ghYiYf^*]WXYb^*JcfgWXf]ZhYbibX^*fY[Y^*aA^*][Yf^*5bdUggib[^*XYf^*DYbg]cbgfØW_ghY^*ib[YbYbYfZc^*[Ybz^*ia^*ibUb[YbY\aY^*,VYffUgWXib[Yb^*a]h^*XYb^*]bUbnVY\OfXYb^*ni^*jYfaY]XYb"$ 

± XYf'Gi a a Y'nY][ h'g]WX. '9]b'[i hYg'< ÀbXWXYb'VY]'XYf'D`Ubi b[XYf'5`hYfgj cfgcf[ Y'\_Ubb'`Ub[ Zf]gh][ 'ZØf'[ Ygi bXY': ]bUbnYb']a 5`hYf'gcf[ Yb"'B]WXh'bi f'ZØf'GhYZUb'A YmYfž'XYf'gY]bYb k c\`j YfX]YbhYb'Fi \YghUbX'[ Yb]Y» hž'gcbXYfb'Ui WX'ZØf'j ]Y`Y gY]bYf'? c``Y[ Ybž'X]Y'YVYbZU``g'XYb'Gdfi b[ ']b'X]Y GY`VqhqhÀbX][ \_Y]h'[ Yk U[ h'\UVYb"

CV']b'7\Ya b]hn'cXYf'UbXYfgk cž'X]Y': fU[Y'V`Y]Vh'K]Y'[i h'\UVYb Yg'X]Y'; YgW\ÀZhgZØ\fYf']b']\fYf'5`hYfgj cfgcf[Y'ØVYfXUW\h3'9g \_Ubb'g]W\'`c\bYbž'ZUW\\_i bX][Y'6YfUhi b[']b'5bgdfi W\'ni 'bY\a Ybž i a 'Ui W\'`Ub[Zf]gh]['[i h'UV[Yg]W\Yfh'ni 'gY]b"

: Øf'k Y]hYfY' ≠ Zcfa Uh]cbYb'i bX'l bhYfghØhni b['ni f'5`hYfgj cfgcf[Y ZØf'; YgW\ÀZhgZØ\fYf'\_Ubb'a Ub'g]W\'Ub'D`UhhZcfa Yb'k]Y' hfUbgdUfYbh!VYfUhYb"XY'cXYf'\Ui ZY"XY'k YbXYb"

9]b'Dfcgh'Ui Z'U``Yž'X]Y'ZØf']\fY'Ni\_i bZh'JYfUbhk cfhi b[ ØVYfbY\a Yb°

8 Y hU]`g	
Cfh	7\Yab]hnž8YihgWX`UbX
EiY``Yb	<ul><li>k k k "ZfY]YdfYggY"XY</li></ul>
	<ul><li>kkk"hfUbgdUfYbh!VYfUhYb"XY</li></ul>
	• k k k "\ Ui ZY "X Y

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