

7CAD57H!AU[Un]b``ÀXh`X]Y`IG!FY[]Yfib[`nia; Yf]W\hghYfa]b`Y]bž'kÀ\fYbX`Y]b`JYfVch`XYg`AU[Un]bg Xfc\h"`DfYggYZfY]\Y]h`]a :: c_i g"



@Y]dn][ž8Yi hgWX `UbX'! '\ Y]bYa 'Ui ZgY\YbYffY[YbXYb ; Yf]WX hgj YfZU\fYbž'XUg'Ua '%\$"'\ b]'j cf'XYa
6i bXYgj Yfk U`hi b[g[Yf]WX h']b'@Y]dn]['ghUhhZ]bXYb'k]fXž'\Uh'XUg
7 C A D57H!A U[Un]b'X]Y'I G!6chgWX UZh']b'6Yf`]b'Y]b[Y`UXYbž'Ub
XYa 'DfcnYgg'hY]`ni bY\a Yb"'8]Yg'[YgWX]Y\h']a '?cbhYl h'XYg
Xfc\YbXYb'J YfVchg'XYf'Di V`]_Uh]cbž'k Y`WXYg'U`g'Y]bY'XYf'YfghYb
gc`WXYb'A UggbU\a Yb'gY]h'%- (-']b'8Yi hgWX`UbX'[Y`hYb'_ObbhY"
@Ui h'7CA D57H'f]WXhYh'g]WX'X]Y'9]b`UXi b['Ui WX'Ub'X]Y'I G!
FY[]Yfi b[ž']bgVYgcbXYfY']b'5bVYhfUWXh'XYf'Øb[ghYb
\cWXfUb[][Yb'FYU_h]cbYb'Ui g'K Ug\]b[hcb'VYnØ[`]WX'Y]bYf
a O[`]WXYb'NYbgi f']b'8Yi hgWX`UbX"

8]Y '9a dÒfi b['ØVYf'X]Y '< cWk ghi Zi b['XYf'5Z8 'Xi fWk 'XYb ±b`UbXg[Y\Y]a X]Ybgh'fJ YfZUggi b[ggWki hnŁ'\Uh'X]Y '; Ya ØhYf']b XYb'I G5 'YffY[h"'5i » Yba]b]ghYf'A UfWc'Fi V]c'VYnY]WkbYhY 8 Yi hgWk`UbX'gc[Uf'U`g' j Yf_UddhY'HmfUbbY] 'i bX'Ài » YfhY ni gUa a Yb'a]h'J]nY!DfÀg]XYbh'> 8 "'J UbWY'i bX'FY[]Yfi b[gVYfUhYf 9`cb'A i g_'À\b`]WkY'9]bgWkÀhni b[Yb"'7CA D57H'Yf\cZh'g]Wk'Xi fWk X]Y'I bhYfghØhni b['XYf'I G!FY[]Yfi b['FØW_\U`h'[Y[Yb'X]Y Xfc\YbXYb'A U» bU\a Y"

8YfU_hi Y``Y GhUb X XYg J YfVchgj YfZU\fYbg

5_hi Y```\Uh'XUg'6i bXYgj Yfk U`hi b[g[Yf]Wkh'XUg'JYfVch'XYg 7CAD57H!AU[Un]bg'ni bÀWkgh'hY]'g'Ui »Yf'Jc``ni ['[YgYhnh"8]Yg [YgWkU\ž'bUWkXYa 'XUg'; Yf]Wkh']a '\dagga' \\gamma \\gamma \\gamma' \]'&\$&('jcb 6i bXYg]bbYba]b]ghYf]b'BUbWm: UYgYf'jYf\\\hab[hY'JYfVch'XYg AU[Un]bg'Ui Z'gY]bY'JYf\\\ha`hb]ga \\dagga' \\gamma \][_Y]h'ØVYfdfØZh'k i fXY"'9fghY Nk Y]ZY``k i fXYb'[Y\hai »Yfhž'cV'X]Y'ZYgh[YghY``hYb'JYfgh\odorange Y'[Y[Yb X]Y'AYbgWkYbk\ØfXY'Ui gfY]WkYbX'[fUj]YfYbX'g]bXž'i a 'Y]b'JYfVch ni 'fYWkhZYfh][Ybž'k]Y'\hU[YggWkUi "XY'VYf]WkhYh"8]Y'Df\hagYbn'j cb 5b\U`hgdi b_hYb'ZØf'Y]bY'a\O[`]WkY'JYf`Yhni b['XYf AYbgWkYbk\ØfXY']b'Xb'JYf\OZZYbh']Wki b[Yb'k Uf'ZYghni ghY``Ybž UVYf'cV'X]YgY'gWkkYfk]Y[YbX'[Ybi ['g]bXž'i a 'XUg'JYfVch Ui ZfYWkhni Yf\U`hYbž'V`Y]Vh'cZZYb"

6Y]'Y]bYf'YfghYb'[Yf]W\h']W\Yb'9bhgW\Y]Xi b['hY]'hY'XUg'; Yf]W\h a]hž'XUgg'7CAD57H'gca]h'j cfØVYf[Y\YbX'k]YXYf'YfgW\Y]bYb _Ubb"'K À\fYbX'X]Y'JYfVchgj YfZØ[i b['ZcfaY``'U`g'fYW\ha À»][YfUW\hYh'k]fXž'k]fX'X]Y'YbX[Ø`h][Y'9bhgW\Y]Xi b[']a < Ui dhgUW\Yj YfZU\fYb'bcW\'Ui gghY\Yb"'8]Y'<YfUi g[YVYf'XYg A U[Un]bg'\UhhYb'ni j cf'Y]bYb'9]'UbhfU['[YghY``hž'XYf'Yhnh YfZc`[fY]W\'kUf"

Dc`]h]gWXYFYU_h]cbYbibXIbhYfghØhnib[

8]Y'6i bXYg]bbYba]b]ghYf]b': UYgYf'VYnY]WXbYhY'7CA D57H'U`g nYbhfU`Yg'GdfUWXfc\f'XYf'fYWXhgYI hfYa]gh]gWXYb'GnYbY 'i bX []b['XUj cb'Ui gž'XUgg'XUg'A U[Un]b'[Y[Yb'X]Y'j YfZUggi b[ga À»][Y CfXbi b['[Yf]WXhYh'gY]"'?f]h]gWXY'Gh]a a Ybž'k]Y'XYf 6i bXYghU[gj]nYdfÀg]XYbh'K c`Z[Ub['?iV]W_]'fl 8 DŁž\UVYb \]b[Y[Yb'X]Y'J cf[Y\Ybgk Y]gY'XYf'A]b]ghYf]b']b': fU[Y'[YghY``h i bX'ZcfXYfhYb'U`hYfbUh]j Yž'a]`XYfY'AU» bU\aYb'''8Yf'8Yi hgW\Y \approx i fbU`]ghYb!JYfVUbX'g]Y\h'X]Y'J cfYbhgW\Y]Xi b['XYg'; Yf]W\hg'U`g dcg]h]j Yg'NY]W\Yb'ZØf'X]Y'DfYggYZfY]\Y]h"

7 C A D57 H! A U[Un]b `\ Uh']bnk]gW\ Yb `i a ZUb[fY]W\ Y GdYbXYbU_h]cbYb `ZØf`X]Y `DfcnYgg_cghYb\]`ZY `[YghUfhYhž`XU`X]Y ; YgUa h_cghYbž`X]Y `ZØf`XYb `FYW\ hgghfY]h`Ui Z[YVfUW\ h`k YfXYb a ØggYbž`Ui Z'fi bX`, \$"\$\$\$ '9i fc`[YgW\ Ahnh`k YfXYb"`Ni XYa `k YfXYb @YgYf`Ui Z[YZcfXYfhž`?cbhU_hY`]b`X]Y`I G5`cXYf`ni `I G!8]d`ca UhYb]b`8 Yi hgW\`UbX`ni `bi hnYbž`i a `I bhYfghØhni b[`ZØf`XYb`DfcnYgg`ni a cV]`]g]YfYb"

8]YgY'9bhk]W_i b[']gh'b]Wkh'XUg'YfghY'A U'ž'XUgg'7CA D57H'a]h
XYa'; YgYhn']b'?cbZ]_h'[YfÀh''6YfY]hg']a 'GYdhYa VYf'&\$&('kifXY
Y]b'JYfVch'jYfgi Wkhž'XUg'YXcWk'[Yf]Wkh`]Wk'[Yghcddh'kifXY''8Ug

\$\D57\H'jYfgi Wkhz'XUg'YXcWk'[Yf]Wkh`]Wk'[Yghcddh'kifXY''8Ug

\$\D57\H'j Cfni [Y\Yb''8]Y'\Rightarrow f]a '\Rightarrow b]'&\$&) 'YfbYih'[Y[Yb
7CA D57\H'j Cfni [Y\Yb''8]Y'\Rightarrow f]ghYfY]'ghY\h'gca]h'a]hhYb']b'Y]bYa
VYXYihYbXYb'dc`]h]gWkYb'ibX'fYWkh`]WkYb'?cbZ]_hz'XYggYb
5i g[Ub['kY]hfY]WkYbXY':c`[Yb'ZØf'X]Y'aYX]U'Y'@UbXgWkUZh']b
8YihgWk`UbX'\UVYb'_ObbhY''

8 Y hU]`g	
JcfZU``	Gcbgh][Yg
Cfh	@Y]dn][ž'8Yi hgWX`UbX
GWX UXYb ']b '	, \$\$\$\$
EiY``Yb	• k k k "Wca dUWh!cb`]bY"XY
	• k k k "hU[YggW\Ui"XY
	• k k k "Vi b X Y ghU["X Y

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