

6fYa]bU`Y`&\$&). `AY\f`@]jYaig]_`ibX gdUbbYbXY`<][\`][\hg`Ua`KYgYfiZYf°

8]Y'6fYa]bU`Y'&\$&) 'j Yfgdf]W\h'a Y\f'@j Ya i g]_'i bX gdUbbYbXY'Dfc[fUa a di b_hY'j ca '- "'V]g'%' "'¬¬¬`)'Ua K YqYfi ZYf']b'6fYa Yb"



CghYfXY]WX ž'6fYa Ybž'8 Yi hgWX`Ub X !! 8]Y '6fYa]bU'Yž'XUg
VY`]YVhY': Ygh]j U``Ua 'K YgYfi ZYf']b '6fYa Ybž'ghY\h']b 'X]YgYa 'JU\f
j cf'bYi Yb' < YfUi gZcfXYfi b[Ybž'_ØbX][h'YXcWX '[`Y]WX nY]h]['Y]b
gdUbbYbXYg'Dfc[fUa a 'Ub"'J ca '- "'V]g'%' "'¬i `j'k YfXYb'X]Y
Cf[Ub]gUhcfYbž'i bhYf'XYf'@Y]hi b['j cb'+bhYf]a g!@Y]hYf'8 Uj]X
K Y]b[AfhbYf'i bX'Dfc[fUa a cf[Ub]gUhcf]b 'Gcd\]U'@YVYW_ž'Y]b
j YfZY]bYfhYg'5b[YVch'dfAgYbh]YfYb"'=a 'A]hhY`di b_h'ghY\Yb
@]j Ya i g]_'i bX'Y]b'j]Y`ZA`h][Yg'?i `hi fdfc[fUa a "'8]Y'D`Ubi b[
k i fXY'cdh]a]Yfhž'i a ', VYfgWXbY]Xi b[Yb'ni 'j Yfa Y]XYbž'i bX'ni a
YfghYb'A U``k]fX'Yg'Y]bY'_`UfY'5V[fYbni b['nk]gWXYb'XYb'6Ø\bYb
[YVYb"' Ghi X]c'=`Y[U`Y 'V`Y]Vh'U`g'Y]bn][Y'6Ø\bY'ZØf'8 xg
fYgYfj]Yfhž'k A\fYbX'X]Y'F UX]c!6fYa Yb!6Ø\bY'a]h'?Øbgh`Yfb'k]Y
<c``Yf'A m'8YUf'i bX' 6`UW_'GYU'8U\i '[`AbnYb'k]fXž'VYf]WXhYh

8 Ugʻ: Ygh]j Uʻʻ\Uhʻg]W\ʻghYhgʻXi fW\ʻgY]bYʻ9]bhf]hhgZfY]\Y]h
Ui g[YnY]W\bYhžʻghY\hʻYXcW\ʻj cfʻZ]bUbn]YʻʻYbʻ< YfUi gZcfXYfi b[Yb]bʻNY]hYbʻghY][YbXYfʻ?cghYb"ʻI a 'X]YʻHfUX]h]cbʻni 'k U\fYbž k YfXYbʻbi bʻGcʻ]!H]W_Yhgʻj Yf_Ui Zhž'X]YʻY]bYʻk]W\h][Y
I bhYfghØhni b['ZØfʻX]YʻJ YfUbghUʻhi b['XUfghYʻʻYb"'8]YgYʻg]bXʻ]b
j YfgW\]YXYbYbʻ? UhY[cf]YbʻYf\À`h`]W\. 'XYfʻF UgYbdʻUhn'ZØfʻ%\$ʻ9i fc
i bXʻXYfʻ9\fYbdʻUhnʻZØfʻ%\$\$ʻ9i fc"`A]hʻXYa '?Ui ZʻXYfʻGc`]!H]W_Yhg
gc```X]YʻGc`]XUf]hÀhʻa]hʻXYfʻ6fYa]bUʻYʻ[YZÒfXYfhʻk YfXYb"'?Ài ZYf
_ÒbbYbʻg]W\'Ui Zʻ_ʻY]bYfYʻ6Y`c\bi b[YbʻUi ZʻXYa ': Ygh]j U`[Y`ÀbXY

J]Y`ZU`h'i bX'=b_`i g]cb']a 'Dfc[fUa a

9]bY'6YgcbXYf\Y]h'XYf'6fYa]bU'Y']gh'XUg'VfY]hY'GdY_hfi a 'Ub ?Øbgh'Yfb'i bX'\(\delta\)]h]Uh]j Yb"'5i Z'XYf'6Ø\bY' GW\'Yi gY 'hfYhYb gck c\'BYk Wca Yf'U'g'Ui W\'YhUV']YfhY''c_U'Y'?Øbgh'Yf'Ui Zž'k cVY] XYf'9f\(\delta\)Zbi b[ghU['a]h'XYa '5i Zhf]hh'j cb'DCD'C\(\overline{\overlin

I a 'Y]bY'VYggYfY'6Uff]YfYZfY]\Y]h'ni '[Yk À\f`Y]ghYbž'k i fXYb
j YfgW\]YXYbY'A U» bU\a Yb'Yf[f]ZZYbž'XUfi bhYf'XYf'6Ui 'Y]bYg
Fc``ghi \`!DcXYghg'gck]Y'K]Z]!GhfYUa]b['ZØf'A YbgW\Yb'a]h
<ÒfVYY]bhfÀW\h][i b["'Ni XYa 'k]fX']b'Ni gUa a YbUfVY]h'a]h'XYf

♣□]h]Uh]j Y' ♣□_`i g]cb'a i gg'`Ui h'gY]b 'Y]bY'_cghYb`cgY
6Y[`Y]hX]Ybgh`Y]ghi b['Ub[YVchYb"'8Ug'[YgUa hY': Ygh]j U`
j Yfn]W\hYh'Ui Z'9]bk Y[[YgW\]ff'i bX'V]YhYh_cghYb`cgYg
Hf]b_k UggYf'Ubž'k Ug'XUg'9b[U[Ya Ybh'ZØf'BUW\\U`h][_Y]h
i bhYfghfY]W\h"

: OfXYfi b[XYf : Ygh]j U`gnYbY

I a ': Ygh]j U`gʻk]YʻX]Yʻ6fYa]bU`Yʻni 'i bhYfghØhnYbž'k i fXYʻUi Z

6i bXYgYVYbY'Y]b': Ygh]j U'ZÒfXYfZcbXg']bg'@YVYb'[Yfi ZYb"'9f
V]YhYh'V]g'ni') \$"\$\$\$'9i fc'I bhYfghØhni b['ZØf': Ygh]j U'g'XYf
dcdi 'ÀfYb'A i g]_'i bX'*Jnn"'8]Y'6i bXYgfY[]Yfi b['\Uh'\]YfZØf
]bg[YgUa h'j]Yf'A]'`]cbYb'9i fc'ni f'JYfZØ[i b['[YghY``h"'N]Y``X]YgYf

*\Dh]Uh]j Y']gh'Ygž'_i 'hi fY```VYXYi hgUa Y'Dfc'Y_hY'ni 'ZÒfXYfb'i bX
]\bYb'Ghfi _hi f'ni '[YVYb"'*\D'X]YgYa '\J\f'k i fXYb'\&+': Ygh]j U`g
Ui g[Yk À\'hž'k cVY]'VYgcbXYfYb'K Yfh'Ui Z'BUW\\U`h][_Y]hž
8]j Yfg]hÀh'i bX'6Uff]YfYZfY]\Y]h'[Y'Y[h'k]fXž'k]Y'X]Y'
6i bXYgfY[]Yfi b['VYf]W\hYh"'A]h'X]YgYf'I bhYfghØhni b['k]fX
b]W\h'bi f'X]Y'J]Y'ZU`h'XYf'XYi hgW\Yb': Ygh]j U``UbXgW\UZh'[YZÒfXYfhž
gcbXYfb'Ui W\'X]Y'_i 'hi fY``Y'=\XYbh]hÀh'[YghĀf_h"

8]Y'6fYa]bU`Y'\Uh'g]W\'U`gc'UiZ[YghY``hžia'X]Y'HfUX]h]cb'XYg Y]bhf]hhgZfY]Yb': Ygh]j U`g'Ui W\']b'NY]hYb'Z]bUbn]Y``Yf GW\k]Yf][_Y]hYb'UiZfYW\hniYf\U`hYb"'8]Y'Cf[Ub]gUhcfYb'ibX'X]Y IbhYfghØhnYf'XYf'JYfUbghU`hib['g]bX'[YZcfXYfhž'X]Y'6chgW\UZh'XYf Gc`]XUf]hÀh'ni'jYfVfY]hYb'ibX'ZØf'X]Y'_caaYbXYb'HU[Y'X]Y 6Ø\bYb'XYg'KYgYfiZYfg']b'Y]b'_`]b[YbXYg'9f`YVb]g'ni jYfkUbXY`b"

8 YhU]`g	
J c fZU``	Gcbgh][Yg
I fgUWXY	Z]bUbn]Y``Y'< YfUi gZcfXYfi b[Yb
Cfh	CghYfXY]WXž6fYa Ybž8Yi hgWX`UbX
EiY``Yb	k k k "_fY]gnY]hi b["XY
	k k k "gnYbYb][\ h"XY
	_i `hi fghUUhga]b]ghYf"XY

6 Y gi W Y b 'G] Y 'i b g 'U i Z 'b ! U ["b Y h