

6chhfc d`VYk Y[ h. '6Øf[ Yf`k c`Yb`bYi Yb  
K ]bX`]a`F Uh\Ui g

6chhfc d`gi W\h`Y]bYb`C VYfVØf[ Yfa`Y]ghYf`fA #K #8Ł`  
I bUV\Åb[ ] [ Y`?UbX]XUhYbgi W\Y`ghUfhYh`a`]h`cZZYbYf  
æVUi ggW\fy]Vi b[ `i bX`7fck XZ`bX]b[ "

<]bk Y]g`ni f`HfUbgdUfYbn. '8Yf`Zc`[ YbXY`5fh]\_Y`VUg]Yfh`Ui Z  
æZcfa`Uh]cbYb`j`cb`XYf`æ]h]Uhj`Y`6chhfc d`V`k Y[ h`"

æ`6chhfc d`\Uh`g]W\`Y]bY`Yb[ U[ ]YfhY` ; fi ddY`j`cb`6Øf[ Yf]bbYb`i`bX  
6Øf[ Yfb`ni`gUa`a`Yb[ YZ`bXYbž`X]Y`i`bhYf`XYa`BUa`Yb`6chhfc d`  
VYk Y[ h`U[ ]Yfh`Æf`N]Y`]gh`Ygž`Y]bYb`i`bUV\Åb[ ] [ Yb`?UbX]XUhYb  
cXYf`Y]bY`?UbX]XUh]b`ZØf`X]Y`Ub[ YghfYVhY`Dcg]h]cb`XYg  
C VYfVØf[ Yfa`Y]ghYfg`ni`Z]bXYb`"8]YgY`æ]h]Uhj`Y`\_ca`a`h`ni`Y]bYa  
NY]hdi`b`\_hž`Ub`XYa`X]Y`GhUXh`a`]h`Yf\YV`]W\Yb`<YfUi`gZcfXYfi`b[ Yb  
\_cbZfcbh]Yfh]ghž`XUfi`bhYf`Z]bUbn]Y`Y`G\k`]Yf][`\_Y]hYb`i`bX`Y]bY  
gdf]W\k`Øfh]W\Y`@YfY`]b`XYf`8]g\_i`gg]cb`ØVYf`\_ØbZh[ ]Y`@gi`b[ Yb`"

8Yf`GdfYW\Yf`XYf` ; fi ddYž`æ]b`<Ybf]W\gž`VYhc`bhž`XUgg`X]Y  
9bhgW\Y]Xi`b[ `j`cb`6YfbX`H]gW\`Yfž`b]W\h`YfbYi`h`ZØf`XUg`5a`h`ni  
\_UbX]X]YfYbž`X]Y`A`Ò[ `]W\`\_Y]h`V]YhYž`Zf]gW\Yb`K`]bX`]b`X]Y`Dc`]h]\_  
6chhfc d`g`ni`Vf]b[ Yb`"K`]f`g]bX`XYf`A`Y]bi`b[ ž`XUgg`Yg`b]W\h  
Ui`hca`Uh]gW\`Ya`UbX`Ui`g`XYf`GD8`gY]b`gc`hYž`XYf`XUg`9fVY  
Ubhf]hh`ž`Yf`\_Åfh`<Ybf]W\g`i`bX`\_f]h]g]Yfh`X]Y`Ub[ Y`HfUX]h]cb`X]YgYf  
BUW\Zc`[ YfY[ Y`i`b[ ž`X]Y`VYfY]hg`gY]h`æ\fnY`b`hYb`VYghY`h`æ`XYf  
æbYbghUXh`gY]`XYi`h]W\`ni`gdØfYbž`XUgg`X]YgY`?cbh]bi`]h`Åh`b]W\h`ni  
XYb`[ Yk`ØbgW\hYb`9f[ YVb]ggYb`[ YZØ\fh`\Uh`"

8]Y`U`\_hi`Y`Yb`<YfUi`gZcfXYfi`b[ Yb`]b`6chhfc d`

6chhfc d`ghY`h]a`A`ca`Ybh`i`bhYf`8fi`W`"8]Y`GhUXh`Y]X`Yh`i`bhYf`

Y]bYa`Bch\Ui g\U`hi bX`VYbØh][ h`Xf]b[ YbX`A U» bU\`a Yb`ni f  
<Ui g\U`hgg]W\Yfi b[ " 8]Y`ϕbYbghUXh`ghØfnh`UVž`i bX`i bgYfY  
GW\i`Yb`gck ]Y`? ]bXYfhU[ Yggh`AhYb`g]bX`]b`Y]bYa`U`Ufa` ]YfYbXYb  
Ni ghUbX""5i W\`X]Y`ϕZfUghfi`\_hi`f`]gh`ghUf`\_]b`A` ]h`Y]XYbgW\UZh  
[ Ync[ Yb`ž`ZØ\fh<Ybf]W\g`Ui`g`Hfc`h`Y]bYf`i`a` ZUb[ fY]W\Yb  
JYfk`U`hi b[ `gY]Yb`X]Y`VØfc`\_fUh]gW\Yb`5V`Ai`ZY`cZi`Ub[ gUa`i`bX  
i`bni`fY]W\YbX""9]bY`5ba`Y`Xi`b[ `ZØf`Y]b`bYi`Yg`Bi`a`a`YfbgW\]`X  
\_ØbbY`K`cW\Yb`]b`5bgdfi`W\`bY\`a`Yb`"

8]Y`ϕ]h]Uh]j`Y`6chhfc`d`VYk`Y[ h`d`U`bhž`ni`f`?`ca`a`i`bU`k`U\`j`a  
<YfVgh`&\$&) `][ YY][ bYhY`?`UbX]XUhYb`ni`d`f`AgYbh]YfYb""8]YgY  
5i`gk`U\`gc`Xi`fW\`Y]bY`]bbcj`Uh]j`Y`A`Yh\`cXY`YfZc`[ Yb.`5bghUhh  
Y]bYg`ØV`]W\Yb`K`U\`j`YfZU\`fYbg`k`]fX`Y]bY`c`ZYbY  
æVUi`ggW\`fY]Vi`b[ `ZØf`XUg`5a`h`XYg`C`VYfVØf[ Yfa`Y]ghYfg`]b  
ØVYffY[ ]cbU`Yb`NY]hi`b[ Yb`k`]Y`XYf`N9`H`c`XYf`XYf`5N  
j`YfØZYb`h]W\h""8]Yg`nY][ h`Y]bY`bYi`Y`<`YfUb[ Y\`Ybgk`Y]gYž`i`a  
dchYbn]Y`Y`?`UbX]XUhYb`ni`[ Yk`]bbYbž`X]Y`b]W\h`bch`k`YbX][ Yfk`Y]gY  
Y]bYf`DUfhY]`Ub[ Y\`ØfYb`a`ØggYbž`gc`Ub[ Y`g]Y`\_Y]bY  
Yi`hfYa`]gh]gW\Yb`5bg]W\hYb`j`YfhfYhYb""`K`]W\h][ `]gh`i`bgž`XUgg`X]Y  
DYfgcb`Y]bYb`6Yni`[ `ni`6chhfc`d`\`Uh`i`bX`VYfY]h`]ghž`\]Yf\`Yf`ni  
n]Y\`Yb`ž`\`YVh<Ybf]W\g`\`Yfj`cf`"

8Yf`Z]bUbn]Y`Y`5gdY`\_h]gh`YVYbZU`g`j`cb`6YXYi`hi`b[`.I`a`X]Y  
5bnY][ Y`ni`Z]bUbn]YfYbž`k`]fX`Y]b`7fck`XZi`bX]b[ `Ui`Z`XYf`D`UhhZcfa  
GhUfhbYi`h`]bg`@YVYb`[ Yfi`ZYb""8]Yg`gc`g]W\YfghY`Ybž`XUgg`X]Y  
K`U\`b]W\h`bi`f`Y]bY`Zcfa`U`Y`5b[ Y`Y[ Yb\`Y]h`]ghž`gcbXYfb  
fYU`]gh]gW\Y`i`bX`Xi`fW\XUW\hY`J`cfgW\`À[ Y`ni`f`\_ØbZh][ Yb  
9bhk`]W`i`b[ `6chhfc`dg`Ybh\`À`h`"

## 9]bV]bXi`b[ `XYf`6Øf[ Yf`i`bX [ Ya`Y]bgW\UZh`]W\Yf`Dfc`nYgg

9]b`k`Y]hYfYf`Yb`hgW\Y]XYbXYf`5gdY`\_h`XYf`ϕ]h]Uh]j`Y`]gh`X]Y  
9]bVYn]Y\`i`b[ `XYf`6chhfc`d`Yf`6Yj`Ø`\_Yfi`b[ "5i`Z`Y]bYf  
K`YVd`UhhZcfa`k`YfXYb`6Øf[ Yf]bbYb`i`bX`6Øf[ Yf`Ui`Z[ YZc`fXYfhž`\`fY  
æYYb`i`bX`GhfUhY[ ]Yb`ni`f`6Yk`À`h][ i`b[ `XYf`?`f]gYb`]b`6chhfc`d  
Y]bni`Vf]b[ Yb""`æXYf`]gh`Y]b[ Y`UXYbž`cb`]bY`ni`X]g`\_i`h]YfYb`i`bX  
J`cfgW\`À[ Y`ni`a`UW\Yb`ž`Yf`\_`À`fh`U`b`<Ybf]W\g""8]Y`[ YgUa`a`Y`hYb

⊖di hg'gc`Yb`X]Y ; fi bX`U[ Y`ZØf`X]Y`5fVY]h`Y]bYf`i bUV`Åb[ ][ Yb  
đ fm`V]`XYbž`X]Y`X]Y`6Yk YfVYf`VY`ZfU[ Yb`k ]fX``9]b`a Ò[ `]W gh  
VfY]hYg`GdY`\_hfi a `XYf`6chhfc dYf`6Yj Ò`\_Yfi b[ `gc``]b`X]YgY`đ fm  
Ui Z[ Ybca a Yb`k YfXYbž`i a `Y]bY`J ]Y`Z`h][ `\_Y]h`ni `[ Yk `Å`f`Y]ghYb"

8]Y`I bhYfghØhni b[ `Xi fW`X]Y`6chhfc dYf`DUfhY]Yb`k ]Y`XYb ; fØbYbž  
X]Y` : 8D`i bX`X]Y`2 8D`]gh`Y]b`k ]W h][ Yf`GW`f]h`i]b`Y]bYa  
XYa c`\_fUh]gW`Yb`Dfc nYggž`XYf`XUfUi Z`UVn]Y`hž`Y]bYb`? UbX]XUhYb`ni  
Z]bXYbž`XYf`X]Y`GhUXh`i]b`Y]bY`bYi Y`Ÿ`fU`ZØ`fYb`\_Ubb`` K ]f  
a ÒW`hYb`Y]bYb`YW`hYb`dc`]h]gW`Yb`K YhVYk YfV`i bX`k ØbgW`Yb  
i bg`Zf]gW`Y`? f`Å`ZhY` ž`VY`hc`bh`< Yb`f]W`g``8 ]Y`78I ž`X]Y`VY]`XYb  
`Y`hnhYb`? ca a i bU`k U`Y`b`\_Y]bYb`Y][ YbYb`? UbX]XUhYb`Ui Z[ YghY``h  
`Uhž`\_Øbb`hY`VYbZU``g`gd`Å`hYf`]b`XYb`Dfc nYgg`Y]b`ghY][ Yb`ž`gcZYfb  
g]Y`g]W`X`Uni `Yb`hgW`Y]XYh"

A Yf`\_k ØfX][ `V`Y]Vh`Y`XcW`ž`XUgg`X]Y`GD8`b]W`h`Y]b[ Y`UXYb`k i fXYž  
Ua `J YfZU`fYb`hY]`ni bY`a Yb`` K ]f`UVYb`b]W`hg[ Y[ Yb`X]Y`DUfhY]  
gY`Vghž`UVYf`Ub[ Yg]W`hg`XYf`Ub[ Yb`8ca ]b`Ubn`XYf`GD8`]a  
C VYfVØf[ Yfa Y]ghYfUa`h`gY]h`%- \*( ž`a ÒW`hYb`k ]f`bYi Yž  
i bj YfVfUi W`hY`DYfgdY`\_h] Yb`ž`gU[ h`< Yb`f]W`g``8 ]Y`⊖]h]Uhj Y  
`6chhfc d`VYk Y[ h`i]gh`b]W`h`XUfUi Z`Ui g[ Y`Y[ hž`DUfhY]dc`]h`\_ni  
VYhfY]VYbž`gcbXYfb`YX][ `]W`X`Yb`Xf]b[ YbX`VYb`Øh][ hYb`dc`]h]gW`Yb  
K UbXY`ni `ZØfXYfb"

## 6chhfc d`VYk Y[ h.`9]b`5i Zfi Z`ni f J Yf`ÅbXYfi b[

8 Ug`9b[ U[ Ya Yb`h`XYf ; fi ddY`\_Ubb`U`g`Y]b`5i Zfi Z`ni f  
J Yf`ÅbXYfi b[ `j YfghUbXYb`k YfXYb``8 ]Y`A ]h[ `]YXYf`UVYb`\_Y]bY  
dc`]h]gW`Yb`5a V]h]cbYb`i bX`ghfYVYb`\_Y]bY`XUi Yf`UZhYb  
Ghfi `\_hi fYb`Ub`/j ]Y`a Y`f`a ÒW`hYb`g]Y`X]Y`6Ug]g`ZØf`Y]bYb  
XYa c`\_fUh]gW`Yb`K YW`gY`gW`UZZYb``B UW`9ffY]W`Yb`X]YgYg`N]Y`g  
VYUVg]W`h][ Yb`g]Y`ž`g]W`Ui g`XYf`dc`]h]gW`Yb`@UbXgW`UZh  
ni fØW`ni n]Y`Yb``9g`V`Y]Vh`UVni k UfhYbž`k Yf`U`g`[ YY][ bYhYf  
? UbX]XUh`Ui g`X]YgYa `cZYbYb`Dfc nYgg`Yfj cf[ Y`Yb`k ]fX`i bX`cV  
X]YgY`⊖]h]Uhj Y`hUhG`ÅW`]W`X]Y`Yf`cZ`hY`K YbXY`ZØf`6chhfc d  
Vf]b[ Yb`\_Ubb``

# Dc`h]gWk Yf`? cbhYI hij cb`6chhfc d

6chhfc dž`Y]bY`GhUXh`ja`Fi` \f[ YV]Yhž`ghY`hij`cf`j` ]Y`Z`h][ Yb  
<YfUi`gZcfXYfi`b[ Ybž`X]Y`gck`c` \`dc`h]gWk Yf`U`g`Ui`Wk  
k`]fhgWk UZh`]Wk Yf`B Uhi`f`g]bX`" `ϕ`XYb`Y`hnhYb`ϕ` \fYb`k`Uf`6chhfc d`a` ]h  
Z]bUbn]Y`Yb`9b[ d`ÀggYb`\_cbZfcbh]Yfhž`k`Ug`gWk`Y`»`]Wk`ni`Y]bYa  
Bch`Ui`g`U`h`Z`f`hY`"8]YgY`G]hi`Uh]cb`a`UWk`h`XYi`h`]Wk`ž`XUgg`X]Y  
GhUXh`i`bhYf`Y]bYa`Yf`YV`]Wk Yb`8fi`W`\_ghY`hž`ghfi`\_hi`fY`Y  
FYZcfa`Yb`i`bX`ghfUhY[ ]gWk Y`A`U`»`bU`a`Yb`ni`Yf[ fY]ZYb`"8]Y`Gh`AXhY  
]b`X]YgYf`FY[ ]cb`\_`Àa`dZYb` \`Ài`Z[ `a` ]h`XYa`c[ fUZ]gWk Yb  
JYf`ÀbXYfi`b[ Ybž`Y]bYf`UVbY`a`YbXYb`6Yj`Ò`\_Yfi`b[ gnU` \`i`bX  
Y]bYa`F`ØW`[ Ub[ `]bXi`ghf]Y`Yf`5fVY]hgd`À`hnYž`k`Ug`g]Wk`X]fY`\_h`Ui`Z  
X]Y`\_ca`a`i`bU`Yb`:`]bUbnYb`Ui`gk`]f`\_h"

8]Y`V]g`Yf][ Y`dc`h]gWk Y`@UbXgWk UZh`]b`6chhfc d`k`i`fXY`gY]h`%-`\*(  
a`U`»[ YV`]Wk`j`cb`XYf`GD8`[ Ydf`À[ hž`X]Y`\_cbh]bi` ]Yf`]Wk`XYb  
CVYfVØf[ Yfa`Y]ghYf`ghY`"hY`"8]YgY`Ub[ Y`5a`hgnY]h` \`Uh`XUni  
[ YZ`f`hž`XUgg`j` ]Y`Y`6Øf[ Yf]bbYb`i`bX`6Øf[ Yf`XUg`; YZ`f` \` \`UVYbž  
XUgg`]bbcj`Uh]j`Y`ϕ`XYb`i`bX`Zf]gWk Y`DYfgdY`\_h]j`Yb`ZY` \`hYb`"8]Y  
ϕ`h]Uh]j`Y`6chhfc d`VYk`Y[ h`j`Yfgi`Wk`h`bi`bž`Y]bYb`U`hYfbUh]j`Yb  
5bgUhn`ni`Z`ØfXYfbž`XYf`Ui`Z`a`Y` \f`6Øf[ YfVYhY`][ i`b[ `i`bX  
HfUbgdUfYbn`gY`hnh"

## 9b[ U[ Ya Ybh`XYf`6Øf[ Yf`i`bX [ YgY`gWk UZh`]Wk Y`DYfgdY`\_h]j`Yb

8Ug`9b[ U[ Ya Ybh`XYf`6Øf[ Yf`]b`6chhfc d`nY][ h]g]Wk`b]Wk`h`bi`f`]b`XYf  
ϕ`h]Uh]j`Y`6chhfc d`VYk`Y[ h`ž`gcbXYfb`Ui`Wk`]b`UbXYfYb`gcn]U`Yb  
i`bX`dc`h]gWk Yb`6Yk`Y[ i`b[ Yb`]bbYf`U`V`XYf`GhUXh`"8]Y  
6YfY]hgWk UZhž`U`\_h]j`\_Ub`dc`h]gWk Yb`DfcnYggYb`hY]`ni`bY`a`Yb`i`bX  
]bbcj`Uh]j`Y`@Øgi`b[ Yb`ni`f`J`YfVYggYfi`b[ `XYf`@YVYbgei`U`]h`À`h`ni  
Yb`hk`]W`\_Y`bž`]gh`Y]b`GWk`ØggY`ni`Y]bYf`gh`À`f`\_YfYb`N]j` ]`[ YgY`gWk UZh`  
8]Y`C`b`]bY!D`Uh`h`Zcfa`ž`X]Y`j`cb`XYf`ϕ`h]Uh]j`Y`VYfY]h[ YghY`h`k`]fXž  
Yfa`Ò[ `]Wk`h`Yg`XYb`6Øf[ Yf]bbYb`i`bX`6Øf[ Yfbž`] \fY`ϕ`XYb`i`bX  
J`c`fgWk`À[ Y`Y]bni`Vf]b[ Ybž`k`Ug`Y]bYb`]b`\_`i`g]j`Yb`8]g`\_i`fg`Z`ØfXYfh"

8]Y`Ni`gUa`a`YbUfVY]h`a` ]h]j`YfgWk`]YXYbYb`DUfhY]Yb`k` ]Y`XYb

; f0bYbžXYf: 8D'i bX'XYf'² 8D']ghY]b'k Y]hYfYf'dcg]h]j Yf'5gdY\_hž  
XYf'X]Y'dc`h]gWXY'@UbXgWUZhj ]Y'ZÀ'h][ Yf'[ YghU`hYh"Gc`W`Y]b  
VfY]hYf'5bgUhn'\_ÒbbhY'XUni`VY]hfU[ Ybž'X]Y'?`i Zh'nk ]gWXYb'XYb  
6Øf[ Yfb'i bX'XYf'Dc`h]\_ni`cj YfvfØW\_Yb'i bX'XUg'J YfhfUi Yb']b'X]Y  
XYa c\_fUh]gWXYb'DfcnYggY'k ]YXYf\Yfni ghY`Yb"

8YhU]`g

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