

@]W\ hYbVYf[Yf'Hf]U`c[Y'&\$&(. 'C ZZYbY
; YgdfÄW\ Y'ni f'gYY`]gW\ Yb'; Ygi bX\Y]h

⇒ a`'X\ f'&\$&(`Z]bXYb`]a`'FU\ a`Yb`XYf`FY]\Y
/ Ua`d/ , &&@]W\ hYbVYf[Yf'Hf]U`c[Y' ; YgdfÄW\ Y'ni a`
H\Ya`U`gYY`]gW\ Y' ; Ygi bX\Y]h` Ua`d/ , &&\$/k`]YXYf`Y]bY`
FY]\Y`j`cb`J`YfUbgH`U`hi`b[Yb`'ghUhh`X]Y`g]W\`a`]h: fU[Yb`fi`bX`
i`a`'X]Y`a`YbgW\`]W\Y`DgmW\Y`VYgW\ÄZh][Yb`"8Yf`6YgcbXYfY`
hf]U`c[]gW\Y`5bgUhn`Yfa`Ö[`]W\h`6YhfcZZYbYbž`5b[Y\Öf][Yb`
i`bX`'hYfYgg]YfhYb`XYb`5i`ghUi`gW\`a`]hidfcZYgg]cbY`Yb`
<Y`ZYfb`]b`cZZYbYb`8]g_i`gg]cbgfi`bXYb`"@]W\ hYbVYf[g`
6Yn]f_gghUXhfÄh]b`ZÖf'; Ygi bX\Y]hž`8f`"7Uhf]b'; cW_gW\ž`
VYhcbh`X]Y`6YXYi`hi`b[`X]YgYf`J`YfUbgH`U`hi`b[Yb`ZÖf`XYb`
FUi`a`'ZÖf`9a`dUh\]Yž`Gc`]XUf]hÄhi`bX`[Ya`Y]bgUa`Yg`
8]g_i`h]YfYb`"8]Y`J`YfUbgH`U`hi`b[Yb`Z]bXYb`j`ca`'&, " : YVfi Uf`
V]g`ni`a`%'`"Bcj`Ya`VYf`Yk`Y]`g`j`cb`%+.\$\$`V]g`%-.\$\$`I`\f`]a`
FUh\Ui`g`@]W\ hYbVYf[`]b`XYf`A`Ö`YbXcfZZghfU`Y`*`fFUi`a`'%%(Ł`
]b`%\$`*`+'6Yf`]b`ghUhh`"8]Y`/`Ua`d`^Y`]d/`

⇒ a`'X\ f'&\$&(`Z]bXYb`]a`'FU\ a`Yb`XYf`FY]\Y` @]W\ hYbVYf[Yf`
Hf]U`c[Y' ; YgdfÄW\ Y'ni a`'H\Ya`U`gYY`]gW\ Y' ; Ygi bX\Y]h`k`]YXYf`
Y]bY`FY]\Y`j`cb`J`YfUbgH`U`hi`b[Yb`'ghUhh`X]Y`g]W\`a`]h: fU[Yb`fi`bX`
i`a`'X]Y`a`YbgW\`]W\Y`DgmW\Y`VYgW\ÄZh][Yb`"8Yf`6YgcbXYfY`
hf]U`c[]gW\Y`5bgUhn`Yfa`Ö[`]W\h`6YhfcZZYbYbž`5b[Y\Öf][Yb`i`bX`
'hYfYgg]YfhYb`XYb`5i`ghUi`gW\`a`]hidfcZYgg]cbY`Yb`<Y`ZYfb`]b`
cZZYbYb`8]g_i`gg]cbgfi`bXYb`"@]W\ hYbVYf[g`6Yn]f_gghUXhfÄh]b`ZÖf`
; Ygi bX\Y]hž`8f`"7Uhf]b'; cW_gW\ž`VYhcbh`X]Y`6YXYi`hi`b[`X]YgYf`
J`YfUbgH`U`hi`b[Yb`ZÖf`XYb`FUi`a`'ZÖf`9a`dUh\]Yž`Gc`]XUf]hÄhi`bX`
[Ya`Y]bgUa`Yg`8]g_i`h]YfYb`"

8]Y`J`YfUbgH`U`hi`b[Yb`Z]bXYb`j`ca`'&, " : YVfi Uf`V]g`ni`a`%'`"
Bcj`Ya`VYf`Yk`Y]`g`j`cb`%+.\$\$`V]g`%-.\$\$`I`\f`]a`'FUh\Ui`g`
@]W\ hYbVYf[`]b`XYf`A`Ö`YbXcfZZghfU`Y`*`fFUi`a`'%%(Ł`]b`%\$`*`+`
6Yf`]b`ghUhh`"8]Y`H\Ya`Yb`fY]W\Yb`j`cb`8YdfYgg]cb`ØVYf`6cfXYf`]bY`

i bX`5i h]ga i g`V]g`\]b`ni `DgmWk ch\YfUd]Y`j g``A YX]_Ua YbhY`i bX
V]YhYb`i a ZUggYbXY`9]bV`]W_Y`]b`j YfgWk]YXYbY`5gdY_hY`XYf
gYY`]gWkYb`; Ygi bX\Y]h``8]Y`J YfUbgH`hi b[Yb`g]bX`_cgHb`cg`i bX
Z0f`U`Y`ϕhYfYgg]YfhYb`ni [Åb[`]Wk"

J YfUbgH`hYf`XYg`: cfi a g`]gh`XYf`; Ya Y]bXYdgmWk]Uhf]gWkY
J YfVi bX`@]Wk hYbVYf[`fi DJ Ł`XYf`a Y\f`U`g`` \$`HfÅ[Yfž
ϕgh]hi h]cbYb`i bX`9]bnY`dYfgcbYb`i a ZUggh``8Yf`; DJ `V]YhYh
[Ya Y]bXYbU\Yb`<]ZYb`Z0f`A YbgWkYb`a]hidgmWk]gWkYb
9f_fUb_i b[Yb`i bX`Gi Wk hdfcV`Ya Yb`Ub"

8]Y`J YfUbgH`hi b[gfY]\Y`]gh`Y]b`k]Wk h][Yf`6Y]hfU[`ni f`gYY`]gWkYb
; Ygi bX\Y]hi bX`V]YhYh`U`Yb`6YhY`][hYb`X]Y`A Ò[`]Wk_Y]hž`g]Wk`Ui Z
5i [Yb\Ò\Y`ni `VY[Y[bYb`i bX`XUg`_ca d`YI Y`H\Ya U`[fY]ZVUfYf`ni
a UWkYb"

p8Uhi a `pH\Ya U`p
p p !p
p&, "": YVfi Uf`p` 8YdfYgg]cb` `A YbgWk ž`\UV `X]Wk`b]Wk`h`gc` `p
p&("5df)`p` 6cfXYf`]bY` `5b`XYf`; fYbnY`ni a `K U\bg]bb` `p
p%- "`ž b]`p` 5i h]ga i g` `A cXYX]U[bcgY3 `p
p&) "`GYdhYa VYf`p` DgmWk ch\YfUd]Y`j g``A YX]_Ua YbhY` `K Ug`\`Zh
k]f`_]Wk3 `p
p%\$``C`_hcVYf`p` Dc`]h]_`hf]Zh`ffg]bb` `; YgdfÅWk`a]h`XYf
6Yn]f_gghUXhfÅh]b` `p
p%' "`Bcj Ya VYf`p` <]ZYb`Z0f`: Ua]`]Y`i bX`: fYi bXY` `ϕZcfa Uh]cbYb
ni a `<]ZYbYhnk Yf_` `p

E i Y`Y. k k k "VYf`]b"XY

8YhU]`g

6Ygi W\Yb`G]Y`i bg`Ui Z.`a Y]b!VYf`]b"bYh