



ARTS3640

>UdUb'UbX'? cfYU. '7 i 'hi fYg']b'7 cbZ]W'h

HYfa 'C.bY''##'&\$%-

7 ci fgY`Cj Yfj]Yk

`GHUZZ7cbhUWh8YHJ]g`

`7cbj Ybcfg`

B Ua Y	9a U]			

7ci fgY'8YHJ]`g

7fYX]hDc]bfg`*`

Gi a a UfmcZ`h`Y'7ci fgY

Gi V`Y`W`h`5`f`Y`U` `<S`b`S` `W`e`W`E` f`g`V`[`M`e`
H`\\g`'W`e`i` f`g`Y`'W`b`'U`'g`c`'V`Y`'g`h`'X`]`Y`X`'j`b`'h`Y`'Z`c`'ck`'j`b`[`'g`d`Y`W`U`]`g`U`h`c`b`.'`=`a`d`\\S` `E` f`g`V`[`M`e`/`'3`e`[`S` `E` f`g`V`[`M`e`

: c`W`g`Y`g`'c`b`'h`Y`'f`Y`'U`h`c`b`g`'V`Y`h`k`'Y`Y`b`'>`U`d`U`b`'U`b`X`'?`c`f`Y`U`'Z`f`c`a`'h`Y`'`U`h`Y`'`%`-`h`'W`b`h`i`f`m`U`b`X`'h`Y`'f`c`'Y`'c`Z`>`U`d`U`b`Y`g`Y`
W`e`'c`b`]`U`]`g`a`'j`b`'h`Y`'X`Y`j`'Y`'c`d`a`'Y`b`h`c`Z`?`c`f`Y`U`b`'W`'h`i`f`U`'b`U`h`c`b`U`]`g`a`"'`9`I`U`a`'j`b`Y`g`'h`Y`'W`e`b`h`Y`I`h`c`Z`
>`U`d`U`b`f`g`'c`d`Y`b`]`b`[`'c`Z`?`c`f`Y`U`]`b`'`%`+`*`z`]`b`W`i`X`]`b`[`'h`Y`'j`b`h`Y`'Y`W`h`i`U`'Z`f`U`a`'Y`k`c`f`_`g`'V`m`k`'\\`W`X`'?`c`f`Y`U`b`'U`b`X`
>`U`d`U`b`Y`g`Y`'h`i`b`_`Y`f`g`'X`Y`Z`]`b`Y`X`'W`'h`i`f`U`'i`b`]`m`'X`Y`V`U`h`g`'U`a`c`b`[`'?`c`f`Y`U`f`g`'W`'h`i`f`U`'W`e`b`g`Y`f`j`U`h`j`'Y`g`'U`b`X`'h`c`g`Y`'k`'\\`c`
U`X`j`c`W`h`Y`X`'h`U`_]`b`[`'>`U`d`U`b`'U`g`'U`'a`c`X`Y`'Z`c`f`g`c`W`U`'U`b`X`'W`'h`i`f`U`'W`X`U`b`[`Y`/'>`U`d`U`b`Y`g`Y`'f`Y`U`X`]`b`[`g`'c`Z`?`c`f`Y`U`b`
W`'h`i`f`Y`f`g`'X`Y`Z`'W`g`'U`b`X`'Y`U`f`m`g`i`d`d`c`f`h`Z`c`f`?`c`f`Y`U`b`'g`Y`'Z`g`h`f`Y`b`[`h`Y`b`]`b`[`'a`c`j`'Y`a`'Y`b`f`g`/`h`Y`'f`Y`'U`h`c`b`g`\\`d`'V`Y`h`k`'Y`Y`b`
>`U`d`U`b`Y`g`Y`'W`e`'c`b`]`U`'d`c`]`W`Y`g`'U`b`X`'?`c`f`Y`U`b`g`f`i`f`Y`g`d`c`b`g`Y`g`'U`Z`h`f`U`b`b`Y`I`U`h`c`b`'j`b`'`%`-`%\$`/`h`Y`'j`b`h`Y`f`f`Y`'U`h`c`b`g`\\`d`
V`Y`h`k`'Y`Y`b`'h`Y`>`U`d`U`b`Y`g`Y`'d`c`]`W`h`c`Z`'W`'h`i`f`U`'f`i`'Y`'U`b`X`'h`Y`'?`c`f`Y`U`b`'f`Y`g`d`c`b`g`Y`'c`Z`'W`'h`i`f`U`'U`h`c`b`U`]`g`h`Q`
a`c`j`'Y`a`'Y`b`f`g`'U`Z`h`f`%`-`%`/`U`b`X`'h`Y`'X`Y`j`'Y`'c`d`a`'Y`b`h`c`Z`?`c`f`Y`U`b`'W`'h`i`f`U`'b`U`h`c`b`U`]`g`a`'h`f`c`i`[`'h`Y`'W`e`'c`b`]`U`'d`Y`f`]`c`X`
f`%`-`%\$`!`%`-`(`)E`'7`c`b`W`i`X`Y`g`'k`'h`'U`'W`'h`W`'Y`I`U`a`'j`b`U`h`c`b`'c`Z`h`Y`'W`e`b`h`i`b`i`j`b`[`'j`a`d`U`W`h`c`Z`>`U`d`U`b`Y`g`Y`'W`e`'c`b`]`U`]`g`a`'c`b`
h`Y`'W`e`b`g`h`i`W`h`c`b`'c`Z`W`'h`i`f`U`'a`'Y`a`c`f`m`]`b`'W`e`b`h`Y`a`d`c`f`U`f`m`?`c`f`Y`U`'H`\\g`'W`e`i`f`g`Y`'j`g`'h`U`i`[`'h`i`b`'9`b`[`'j`g`'U`b`X`'k`'h`
f`Y`U`X`]`b`[`g`]`b`'9`b`[`'j`g`'`

7ci fgY`@YUfb]b[`Ci h`W`c`a`Yg

5ggYgga Ybh

GHUfhXUHy.

8YHU]g. !WUgg'hYghf%\ci fE[]j Yb'gc'gh XYbhg'\Uj Y'XYU'cZ\ck 'hYmUfY'Xc]b[žk \Uh]g'fYei]fYXžUbX
\ck 'hc'dfYdUFY'Zcf'gYWŁbX'YI Ua "': YYXVUW_j]U']bX]j]Xi U'fYgi 'hg'UbX']b!WUgg'X]gW gg]cb"

Hi fb]h]b'gYH]b[. H\]g]g'bchU'Hi fb]h]b'Ugg][ba Ybh

5ggYgga Ybh&. '7f]h]WU'F Yj]Yk

GHUfhXUHy.

8YHU]g. 'Gh XYbhg'W]h]W'mUbX'WŁ\Yg]j Y'mfYgdcBx'hc'U'VfcUX'gYhiczEi Ygh]cbg'WŁj Yf]b['hY'WŁi fgY
ffci [\m%ž&\$ \$'k cfXgŁ': YYXVUW_j]U']bX]j]Xi U'WŁa a Ybhg'UbX'fi Vf]W

Hi fb]h]b'gYH]b[. H\]g]Ugg][ba Ybh]g'gi Va]h]X'hfci [\ 'Hi fb]h]b'UbX'gh XYbhg'Xc'bcHgYY'Hi fb]h]b
g]a]Uf]mifYdcf]g"

5ggYgga Ybh' . '9I Ua ' &

GHUfhXUHy.

8YHU]g. 'HYghf&\ci fgŁ'WŁj Yf]b['a UHf]U'UZhf'YI Ua ' %': YYXVUW_j]U']bX]j]Xi U'fYgi 'hg'UbX']b!WUgg
X]gW gg]cb" H\]g]g'hY'Z]bU'UggYgga YbhZcf'UH]bXUbW'di fdcgYg"

Hi fb]h]b'gYH]b[. H\]g]g'bchU'Hi fb]h]b'Ugg][ba Ybh

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Hi fb]h]b`Gi Va]gg]cb

Ẓmci `YbWci bhYf`U`dfcV`Ya `k \Yb`U`H`Ya dh]b[`hc`gi Va]hmc i f`Ugg][ba YbhHfci [\`Hi fb]h]bžd`YUgY
H`Yd\cbY`9I H`fbU`Gi ddcfhcb`-` ,) `` `` ` %cf`Ya U]`H`Ya `cb`YI H`fbU`H`hgi ddcfh4 i bgk "YXi "Ui ``Gi ddcfh
\ci fg`UfY` , .\$\$Ua `--`%\$. \$\$da `cb`k YY_XUmg`UbX`- . \$\$Ua `--`) . \$\$da `cb`k YY_YbXg`fI *) `XUmg`U`m`YUfL` Ẓmci
UfY`i bUV`Y`hc`gi Va]hmc i f`Ugg][ba YbhXi Y`hc`U`ZU`i`hik]H`Hi fb]h]b`mci `a UmiUdd`miZc`f`Ub`YI H`bg]cbžVi hmc i
a i ghfYH]b`mci f`h]W`Yhbi a VYf`Zca `9I H`fbU`Gi ddcfhfU`cb[`k]H`Ubmch`Yf`fY`Yj UbhXcW a YbHgk`hc
]bWi XY`Ug`Yj]XYbW`hc`gi ddcfhmci f`YI H`bg]cb`Udd`jW]h]cb" Ẓmci `Ya U]`9I H`fbU`Gi ddcfhmci `k]`

5 WUXYa]W<c bYghmUbX`D`U[]Uf]ga

D`U[]Uf]ga `]g`i g]b[`hY`k cfXg`cf]XYUg`cZchYfg`UbX`dfYgYbh]b[`hYa `Ug`mci f`ck b" `hWUb`hU`Y`a Ubm
Zcfa gž`Zca `XY`]VYfUHY`WXYU]b[`hc`UWV]XYbhU`mW`dm]b[`Zca `U`gci fW`k]h`ci hUW_bck`YX[Ya Ybh`

I BGK `[fci dg`d`U[]Uf]ga `]bhc`hY`Zc`ck]b[`WUHY`[cf]Yg.

7 cdm]b[.`i g]b[`hY`gUa Y`cf`j Yfmg]a]Uf`k cfXg`hc`hY`cf][]bU`hYI hcf]XYU`k]h`ci hUW_bck`YX[]b[`hY`
gci fW`cf`i g]b[`ei chU]cb`a Uf_g" `H\]g`U`gc`Udd`]Yg`hc`]a U[Ygž`UfhUbX`XYg][b`dfc`YWgž`Ug`k Y`Ug
dfYgYbhU]cbg`k \YfY`gca YcbY`dfYgYbh]g`UbchYf`g`]XYUg`cf`k cfXg`k]h`ci hWYX]h`

hUddfcdf]UHY`dUfUd`fUg]b[.`7`Ub[]b[`U`ZYk `k cfXg`UbX`d`fUgYg`k \]Y`a cghmifYU]b]b[`hY`cf][]bU`
ghfi W`i fY`UbX`#`f`dfc[fYgg]cb`cZ]XYUg`cZ`hY`cf][]bU`ž`UbX`]bZcfa U]cb`k]h`ci hUW_bck`YX[Ya Ybh`H\]g`U`gc
Udd`]Yg`]b`dfYgYbhU]cbg`k \YfY`gca YcbY`dUfUd`fUgYg`UbchYf`g`]XYUg`cf`k cfXg`k]h`ci hWYX]hU`bX`hc
d]YW]b[`hc[YhYf`ei chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk `k \c`Yž`k]h`ci hUddfcdf]UHY`fYZYfYbW]b["

7 c`i g]cb.`k cf_]b[`k]h`chYfg`Vi hdUgg]b[`cZ`hY`k cf_]Ug`U`dYfgcb`g`]bX]j]Xi U`k cf_]7 c`i g]cb`U`gc
]bWi XYg`dfcj]X]b[`mci f`k cf_]hc`UbchYf`gh`XYbhVYZc`fY`hY`Xi Y`XUHYž`cf`Zc`f`hY`di fdcgY`cZ`hY`a

- i bXYfghUbx'mci f'f][\hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[]Uf]ga ž'Wc'dmf][\hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5W'W'dhUV'Y'I gY'cZ I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUbxUfXg'cZVY\Uj]ci f'YI dY'W'X'cZYj Yfmcby`]b'h'Y'I BGK 'W'a a i b]m
- `cW'W'h'gYfj]W'g'UbX']bZ'fa U]cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZ'Y'gY'UfY'Ug'k]`VY'ZJa]]Uf'hc'mci ž'c'h'Yfg'k]`VY'bYk " "; U]b]b['U'gc`X'i bXYfghUbx]b['cZU`'h'Y fY'U'Y'X'UgdY'W'g'cZ9@-G9'k]`'Y'd'mci 'a U_Y'h'Y'a cghcZmci f'gh X]Yg'Uhl BGK ""

[\h'hd.##gi V'Y'W'i \]X'Yg" \]VfUfm'i bgk "YXi "Ui #' \]gY#\]Vci h' \]gY](#)

5 WUXYa]WbZcfa Uh]cb`

: cf`YggYbh]U`ghi XYbh]bZcfa Uh]cb`fY`Uh]b[`rc.

- fYei Ygh]Zc`fYI h`bg]cb/
- `Uh]`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk `cZa Uf_g/
- I BGK `<YU`h`UbX`GUZY`midc`]WYg/

