



ARTS5505

DYfgcbU`]gYX`9b[`]g\`@Ub[i U[Y`9b\UbW@a Ybh

HYfa `H\fYY`##`&\$&\$

GWcc`cZ< i a Ub]hYg`UbX`@Ub[i U[Yg`##`I BGK ``5ftg`UbX`GcWU`GWYbWg

7ci fgY'8YHJ]`g

7fYX]hDc]bHg`*`

Gi a a UfmcZh\Y'7ci fgY

H\]g`Wci fgY`k]``\Y`d`mci`hc`Yb\UbW`mci`f`9b[`]g\`Ub[i U[Y`g_]`g`]Zmci`gdYU_`9b[`]g\`Ug`U`gYWcbX`
`Ub[i U[Y`" `#`UXX]hcbz`h]g`Wci fgY`dfcj`]XYg`mci`k`]h`h\Y`g_]`g`hc`VY`Ub`Ui`hc`bca`ci`g`UbX`]bXYdYbXYbh`
`YUfbYf`gc`h`U`h`mci`Wb`Wcb`h`bi`Y`hc`Yb\UbW`mci`f`9b[`]g\`Ub[i U[Y`g_]`g`]bhc`h\Y`Z`h`fY`hc`UWX]Yj`Y`mci`f`
UW]XYa`]WUbX`dfcZ]gg]cbU`[cU`g`"Mci`k`]``]XYbh]Zmk` \]W`UgdYW]f]cZmci`f`9b[`]g\`mci`k`ci`X`_]`Y`hc`
]a`dfcj`Y`UbX`h\Yb`XYg][`b`UbX`]a`d`Ya`Ybh`mci`f`ck`b`d`YfgcbU`dfc`YW]hc`UW]a`d`]g\`mci`f`[cU`g`"

5ggYgga Ybh

5ggYgga YbhHUg_g`

5ggYgga YbhHUg_	K Y][\h	8i Y`8UHŸ	Ghi XYbh@YUfb]b[Ci hŸa Yg`5ggYggYX
DYfgcbU`dfc`YWhXYg][b fDD8Ł	' \$i	\$- #/%#&\$&\$`%%`\$\$`DA	' ž(ž)
Dfc`YWh`c[Vcc_`UbX``ci fbU`	&\$i	\$* #/%#&\$&\$`%%`\$\$`DA	%ž&
C fU`DfYgYbHU]cb`!`%\$ a]bi HŸg`	&\$i	⊖`WUgg`cZ`Ughk YY_	(ž)
F YZYW]j Y`YggUm	' \$i	&+ #/%#&\$&\$`%%`\$\$`DA	%ž&

5ggYgga Ybh8YHU]`g

5ggYgga Ybh%`DYfgcbU`dfc`YWhXYg][b`fDD8Ł

GHUfhXUHŸ.`

@Yb[h. `%) \$\$`k cfXg

8YHU]`g.

Ghi XYbhŸ`XYg][b`hY]f`ck b`dYfgcbU`dfc`YWh`c`UXXfYgg`hY]f`ck b`9b[`]g\`Ub[i U[Y`bYYXg`"H\YmUFY
fYei]fYX`h`gdYW]m`hY]f`dYfgcbU`dfc`YWh`c`U`ž`VUW_`fci bXž`a`Yh`cXž`fYgci fW]gž`dfc[fYgg`a`YUgi fYa`Ybž
h]a`Y`bYž`gW`YXi`Y`UbX`Ubh]W]dUH`X`ci`hŸa`Yg`"H\YmbYYX`h`XYj`Y`cd`hY]f`DD8`VUgYX`cb`fY`Yj`Ubh
]hYfUh`fY`cZ`hY`Z]Y`X`W`bW`fbYX`"H\Y`k`cfX`"ja`]h]g`%)`\$\$`"

Ghi XYbhŸ`fYW]j`Y`k`f]hYb`ZYXVUW_`VUgYX`cb`fi`Vf]Wg`".....

Hi`fb]h]b`gYh]b[.`H\]g`Ugg][`ba`Ybh]g`gi`Va`]hYX`h`fci`[\`Hi`fb]h]b`UbX`g]h`XYbhŸ`WU]b`gY`Y`Hi`fb]h]b`g]a`]Uf]hm
fYdcfŸg`"

5ggYgga Ybh&.`Dfc`YWh`c[Vcc_`UbX``ci fbU`

GHUfhXUHŸ.`

8YHU]`g.

Ghi XYbhŸ`fYW]j`Y`k`f]hYb`ZYXVUW_`VUgYX`cb`fi`Vf]Wg`".....
DD8`"H\YmUFY`fYei]fYX`h`gdYbX`" \$`ci`fg`cf`a`cfY`Z`f`hY]f`dYfgcbU`dfc`YWh`"

Ghi XYbhŸ`fYW]j`Y`k`f]hYb`ZYXVUW_`VUgYX`cb`fi`Vf]Wg`"

Hi`fb]h]b`gYh]b[.`H\]g`]g`bchU`Hi`fb]h]b`Ugg][`ba`Ybh

5ggYgga Ybh' . 'CfU`DfYgYbhUjcb`!`%\$`a]bi hYg

GHUfhXUHY . `Bch5dd`]WUV`Y

@Yb[h . `%\$`a]bi hYg`f) !+`a]bi hYg`cZdfYgYbhUjcb`Z`" !(`a]bi hYg`cZE / 5k

8YHU]`g.

Gh XYbthg`dfYgYbhHAY]f`YUfb]b[`\\][`\\][`\\hg`Zfca`hAY]f`dYfgcbU`dfc`YWhZcf`UVci`h%\$`a]bi hYg`hc`]bgd]fY`dYYfg`hc`Wcb]bi`Y`hc`Yb`\\UbW`hAY]f`Ub[i U[Y`g_]`g`Yj`Yb`UZYf`Wca`d`Yh]b[`hAY`Wci`fgY`"H\\YmUFY`fYei`]fYX`hc`gi`Va`]hUb`UVghfUWhfUVci`h%`\$`k`cfXgk`UVci`hk`\\UhHAYmUFY`[`c]b[`hc`dfYgYbhU`Wci`d`Y`cZk`YY`g`VYZcfY`hAY`dfYgYbhUjcb`XUm`Gh`XYbthg`fYW]j`Y`k`f]hYb`ZYXVUW`Zfca`h`hc`f`cb`UVghfUWg`f%\$i`E`UbX`Zfca`d`YYfg`cb`dfYgYbhUjcb`f%\$i`E`VUgYX`cb`fi`Vf]Wg"

5XX]h]cbU`XYHU]`g.

5VghfUWg`UFY`Xi`Y`cb`Hi`fb]h]b`Vm%da`ZA`cbXUm-`B`cj`Ya`VYf`fK`YY`_-`E`"DfYgYbhUjcbg`UFY`Xi`Y`]b`hAY`WUgg`cZ`hAY`"Ughk`YY`_"`

Hi`fb]h]b`gYH]b[.`H\\]g`Ugg][`ba`Ybh]g`gi`Va`]hYX`h`fci`[`\\`Hi`fb]h]b`UbX`ghi`XYbthg`WUb`gYY`Hi`fb]h]b`g]a`]`Uf]hm`fYdcfng"

5ggYgga Ybh(. `F`YZYW]j`Y`YggUm

GHUfhXUHY . `

@Yb[h . `&\$\$\$`k`cfXg

8YHU]`g.

Gh XYbthg`UbU`m]WU`m`UbX`W]h]W`m`fYZYW]cb`hAY]f`YUfb]b[`YI`dYf]YbW`cZ]a`d`Ya`Ybh]b[`hAY]f`ck`b`dYfgcbU`dfc`YWh`UbX`di`hUW]Yj`UV`Y`UW]cbg`]b`U`d`Ub`Zcf`hAY`bYI`h`YUfb]b[`ghU[Y`"H\\Y`k`cfX`"ja`]h]g`&\$\$\$"

Gh XYbthg`fYW]j`Y`k`f]hYb`ZYXVUW`VUgYX`cb`fi`Vf]Wg`"H\\]g`]g`hAY`Z]bU`UggYgga`YbhZcf`Uhm]bXUbW`di`fdcgYg"

Hi`fb]h]b`gYH]b[.`H\\]g`Ugg][`ba`Ybh]g`gi`Va`]hYX`h`fci`[`\\`Hi`fb]h]b`UbX`ghi`XYbthg`WUb`gYY`Hi`fb]h]b`g]a`]`Uf]hm`fYdcfng"

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

Gh Xmjb[`]b`9b[`]g\.`GhfUHY[]Yg`Zcf`Gi`Wwgg`]b`<][\Yf`9Xi`WU]cb`f&\$\$%+£

F YWca a YbXYX`F Ygci fWg

6cc_`-`9ggYbh]U`g`cZ9ggUmK`f]h]b[.`K` \UhiA`Uf`_Yfg`@cc_`:`cf`f&\$\$%+£

6cc_`-`@YUfbYf`9b[`]g\.`5`HYUWX`Yffg];`i`]XY`hc`bHYfZYfYbW`UbX`C`hYf`DfcV`Ya`g`f&\$\$%£

6cc_`-`7`f]h]WJ`F`YUX]b[`UbX`K`f]h]b[`]b`h\Y`8][]U`5[Y.`5b`bHfcXi`Wc`fm7`ci`fgYVcc_`f&\$\$%*£

6cc_`-`@cb[a`Ub];`fUa`a`Uf`cZGdc`_Yb`UbX`K`f]h]b[`]b`h\Y`8][]U`5[Y.`5b`bHfcXi`Wc`fm7`ci`fgYVcc_`f&\$\$%*£

6cc_`-`:`cfY][b`@Ub[i`U[Y`@YUfb]b[`f%`-`-`£

6cc_`-`@YI`]WJ`-`ggi`Yg`]b`@Ub[i`U[Y`@YUfb]b[`f%`-`-`£

6cc_`-`<`ck`@Ub[i`U[Yg`UfY`@YUfbYX`f&\$\$(\$£

6cc_`-`;`j`Y`hU`;`c.`HYUWX]b[`Dfcbi`bW]U]cb`hc`5Xi`hg`f&\$\$-£

6cc_`-`HYUWX]b[`UbX`F`YgYUfW]b[`GdYU_]b[`f&\$\$%+£

A`cfY`fYgci`fWg`UfY`fYWca`a`YbXYX`cb`@Y[Ubhc`fj`]U`A`ccX`Y£/`C`dYb`@YUfb]b[

Gi Va]gg]cb`cZ5ggYgga YbhiHUg_g

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

≠mci`YbWci`bHYf`U`dfcV`Ya`k` \Yb`UHYa`dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`h`fci`[`\`Hi`fb]h]b`z`d`YUgY`
HY`Yd`cbY`9I`HYfb`U`Gi`ddcfhcb`-`,`)`"``"``%cf`Ya`U]`h`Ya`cb`YI`HYfb`U`HY`hgi`ddcfh4`i`bgk`"YXi`"Ui`""Gi`ddcfh`
`lci`fg`UfY`,`.\$\$Ua`-`-%\$.\$\$da`cb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`cb`k`YY`YbXg`f1`*)`XUmg`U`mY`Uf2`≠mci`
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`Xi`Y`hc`U`Zi`h`k`]h`Hi`fb]h]b`mci`a`UmUdd`m`Zc`f`Ub`YI`HYbg]cb`z`Vi`hmc`i`
a`i`ghf`Yh]b`mci`f`h]W`Yhbi`a`VYf`Z`ca`9I`HYfb`U`Gi`ddcfh`f`U`cb[`k`]h`Ubmc`h`Yf`fY`Yj`Ubh`Xc`W`a`Yb`hg`L`hc`
]b`Wi`XY`Ug`Yj`]XYb`V`hc`gi`ddcfhmc`i`f`YI`HYbg]cb`Udd`]W]h]cb`≠mci`Ya`U]`9I`HYfb`U`Gi`ddcfhmc`i`k`]`
Ui`hc`a`U]h]W]m`f`Y`W]j`Y`U`h]W`Yhbi`a`VYf`z`Vi`h]Z`mci`HY`Yd`cbY`mci`k`]`b`Y`Y`X`hc`gd`Y`W]Z]W]m`Ug`_`Zc`f`cbY`
Hi`fb]h]b`U`gc`d`fcj`]XYg`i`d`XU`HY`g`cb`h`Y]f`gm`gh`Ya`g`h`U`h`g`cb`Hk`]h`Y`f`"

;`Yb`Yf`U`m`z`Ugg`Ygga`Ybhi`Ug_g`a`i`gh`VY`gi`Va`]h`Y`X`Y`Y`W`f`cb]W]m`j`]U`Y]h`Y`f`Hi`fb]h]b`cf`U`A`cc`X`Y`
Ugg][`ba`Yb`h`h`b]bg`h`Ub`V`W`g`k` \Y`fY`h`g`]g`b`ch`d`c`g`g]V`Y`z`]h`k`]`V`Y`g`h`U`H`X`cb`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`
U`HY`fb`U`h]`Y`gi`Va`]gg]cb`XY`h]g`"

:`cf`]b`Z`fa`U`h]cb`cb`l`ck`hc`gi`Va`]h`Ugg][`ba`Yb`hg`cb]b`Y`j`]U`A`cc`X`Y`.`h`h`d`g`#`gh`XYb`h`i`bgk`"YXi`"Ui`#`ck`!
gi`Va`]h`Ugg][`ba`Yb`h`a`cc`X`Y`"

5 WUXYa]W< cbYgmiUbX`D`U[]Uf]ga

D`U[]Uf]ga `]g`i`g]b[`h`Y`k`c`f`X`g`c`f`]X`Y`U`g`c`Z`c`h`Y`f`g`i`U`b`X`d`f`Y`g`Y`b`h]b[`h`Y`a` `U`g`m`c`i`f`c`k`b`" `#`W`U`b`h`U`_`Y`a` `U`b`m`
Z`c`f`a`g`Z`Z`c`a` `X`Y`]V`Y`f`U`h`Y` `W`X`Y`U`h]b[`h`c` `U`W`W`Y`X`Y`b`h`U` `m`i`W`c`d`m]b[`Z`c`a` `U`g`c`i`f`W` `k`]h`c`i`h`U`W`_`b`c`k` `Y`X[`Y`a` `Y`b`h`

I`B`G`K` `[`f`c`i`d`g`d`U[]Uf]ga `]b`h`c` `h`Y` `Z`c` `c`k`]b[`W`U`h`Y`[`c`f`]Y`g.

- 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'U'g'U'f'X'g'c'Z'V'Y'\U'j]ci f'Y'I d'Y'W'X'c'Z'Y'j Y'f'm'c'b'Y']b'U'Y'I BGK 'W'c'a a i b]m
- 'c'W'U'h'g'Y'f'j]W'g'U'bx']b'Z'c'f'a U'h'c'b'U'V'c'i h'i BGK 'U'bx'I BGK '@]V'f'U'f'm

Gca Y'cZ'U'g'Y'U'f'Y'U'g'k]''V'Y'Z'J'a]]U'f'U'c'm'c'i ž'c'h'Y'f'g'k]''V'Y'b'Y'k "'; U]b]b['U'g'c'X'i bXYfghUbx]b['cZU''U'Y' f'Y'U'h'X'U'gd'Y'W'g'c'Z'9@-G'9'k]''\Y'd'm'c'i 'a U_Y'U'Y'a c'g'h'c'Z'm'c'i f'g'h' X]Y'g'U'hl BGK ""

[\h'c'.#\]j' V'Y'W'f' i \]X'Y'g'' \]V'f'U'f'm'i b'g'k "Y'X'i "U'i #' \]g'Y'#\]V'c'i h' \]g'Y](#)

5 WUXYa]W**⊖**Zcfa Uh]cb

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