



ARTS3090

A YX]Už 7 i `h fY `UbX `HYW\bc `c [m7 Udghc bY. `A YX]U
7i `h fYg

HYfa `Hk c `# `&\$&%

GWcc `cZH Y `5ftg `UbX `A YX]U `# `I BGK `5ftgž8 Yg]I b / `5fWX]hYVW` fY

7 ci fgY`Cj Yfj]Yk

GhJZZ'7 cbhJWw'8YhJ]`g

7cbj Ybcfg

B Ua Y	9a Uj`	5j Uj`UVj]m	@cWjhcb	D\cbY
F Ua Ugk Ua] < Uf]bXfUbuH	f"\Uf]4 i bgk "YXi "Ui	VmUddc]bħa Ybh		

Hi ħcfg

B Ua Y	9a Uj`	5j Uj`UVj]m	@cWjhcb	D\cbY
F cXbYmK U`]g	f`k U`]g4 i bgk "YXi "Ui	VmUddc]bħa Ybh		

GWx cc``7 cbhJWw'ħZcfa Uhjcb

GWx cc``cZh\Y'5fmg`UbX`A YX]U

F cca " %&ž@Yj Y`` žF cVYfhK YVghYf'6i]X]b[`fl %Ł

D\cbY. f\$&Ł'- ' ,) '(,) *

9a Uj]: [gUa_4 i bgk "YXi "Ui](#)

K YVg]ħY.:

7 ci fgY'8YHJ]`g

7 fYX]hDc]bhtg`*`

Gi a a UfmicZhY'7 ci fgY

H\]g`Wci fgY`YI Ua]bYg`hY`Wca d`YI`fY`Uhc]bg`VYrk`YYb`hY`a`YX]Už`gcWY`mž`dc`]h]Wg`UbX`W`h`fY`ž`YI`d`c`f]b[
hY`X]j`YfgY`k`Umg`]b`k`\\W`hY`a`YX]U`]bZi`YbW`UbX`UfY`]bZi`YbW`X`VmXYj`Y`cda`Ybhtg`]b`gcW]U`UbX`dc`]h]W`
W`h`fY`"`H\Y`A`YX]U`7`UdgrcbY`k`]`"`UXXfYgg`hcd]W`"]ggi`Yg`fY`Uhc]b[`h`c`a`YX]Už`hY`W`bc`c[`m`UbX`W`h`fY`" `h`k`]`
i`gY`fY`W`b`h`X`Y`j`Y`cda`Ybhtg`UbX`W`fY`b`h`W`U`g`Y`gh`X]Yg`X`f`U`k`b`Z`ca`U`j`Uf]Y`h`m`c`Z`g`c`i`f`W`g`g`i`W`U`g`b`Y`k`g`UbX`
Y`b`h`f`U]`ba`Y`b`ž`X`Y`V`U`H`g`c`b`gcW]U`a`YX]U`UbX`b`Y`k`]`b`Z`ca`U`h`c`b`h`Y`W`bc`c[`]Yg`ž`a`YX]U`W`a`d`U][`bg`ž`UbX`
d`c`d`i`U`f`W`h`fY`h`c`YI`Ua`]bY`hY`V`f`c`U`X`Y`f`gcW]c!`d`c`]h]W`" `W`c`b`h`Y`h`]b`k`\\W`hY`a`YX]U`U`f`Y`" `c`W`h`Y`X`" `i`g]b[`]`Y`m`
h`Y`c`f]Y`g`UbX`W`c`b`W`d`h`g`ž`h`g`]W`c`i`fgY`k`]`" `YI`d`c`f`Y`U`f`U`b[`Y`c`Z`f`Y`j`U`b`h]ggi`Yg`h`U`h`X`Y`a`c`b`g`h`U`h`h`Y`W`b`h`U`]m`
c`Z`h`Y`a`YX]U`h`c`W`c`b`h`Y`a`d`c`f`U`f`m`W`h`fY`"

7 ci fgY`@YUfb]b[`Ci hWca Yg

- %`8`Ya`cbg`h`U`h`U`b`i`b`X`Y`f`g`h`U`b`X]b[`c`Z`W`h`f`U`ž`Y`W`c`b`c`a`]W`U`b`X`d`c`]h]W`" `X`m`b`U`a`]W`g`U`f]g]b[`Z`ca`f`Y`U`h`c]b`g`
V`Y`r`k`Y`Y`b`a`Y`X]U`U`b`X`W`h`f`Y`
- &`8`]g`d`U`m`h`Y`U`V]`]m`h`c`W`]h]W`" `m]b`j`Y`g`h[`U`h`h`Y`]a`d`]W`h`c]b`g`c`Z`h`Y`g`Y`f`Y`U`h`c]b`g`\\d`g`c`b`d`c`d`i`U`h`c]b`g`ž`
h`Y`g`Y`Z`U`b`X`U`f`U`b[`Y`c`Z`a`Y`X]U`]b`g`h]h`h`c]b`g`
- `" `8`Ya`cbg`h`U`h`U`g_]`g`]b`U`b`U`m`h]W`k`f]h]b[`U`b`X`h`Y`f][`c`f`c`i`g`U`d`d`]W`h`c]b`c`Z`h`Y`c`f`Y`h]W`" `W`c`b`W`d`h`g`h`c`
Y`j`Y`f`m`X`U`m`YI`U`a`d`Y`g`c`Z`W`h`f`U`U`b`X`a`Y`X]U`j`U`i`Y`
- (`" `G`\\c`k`U`b`U`V]`]m`h`c`h`]b_]`b`X`Y`d`Y`b`X`Y`b`h`m`ž`W`]h]W`" `m`U`b`X`W`Y`U`h]j`Y`m`U`V`c`i`h`j`U`i`Y`Z`ca`U`h`c]b`g`f`Y`g`i`h]b[
Z`ca`h`Y`f`Y`U`h`c]b`V`Y`r`k`Y`Y`b`a`Y`X]U`U`b`X`W`h`f`Y`
-)`" `8`Ya`cbg`h`U`h`U`b`U`V]`]m`h`c`X`Y`j`Y`c`d`f`Y`g`Y`U`f`W`" `W`d`U`W`h]Y`g`]b`U`a`Y`X]U`U`f`Y`U`c`Z`g`d`Y`W`Z]W]b`h`Y`f`Y`g`h`

HYUWk]b[`GhfUhr[]Yg`

H\]g`]g`hY`"Yj`Y`" `A`YX]U`7`UdgrcbY`Wci fgY`" `h`Vi`]`X`g`c`b`g_]`g`X`Y`j`Y`c`d`Y`X`U`b`X`_`b`c`k`Y`X[`Y`[`U`]b`Y`X`]b`" `Y`j`Y`g`%
U`b`X`&`W`c`i`fgY`g`ž`U`b`X`U`" `c`k`g`g`h`X`Y`b`h`g`h`c`X`Y`j`Y`c`d`g_]`g`]b`" `\\[`\\Y`f`c`f`X`Y`f`U`b`U`m`g]g`U`b`X`g`Y`Z`X]f`Y`W`X`" `Y`U`f`b]b[`"
H\Y`W`c`i`fgY`]g`X`Y`]j`Y`f`Y`X`j`]U`U`" `Y`W`h`f`Y`U`b`X`U`g`Y`a`]b`U`f`Y`U`W`k`Y`Y`_" `G`Y`a`]b`U`f`g`k`]`" `V`Y`c`d`Y`b`h`c`X]U`c[`i`Y`U`b`X`
X]g`W`g]g]c`b`ž`k`]h`h`Y`U`a`c`Z`YI`d`c`f]b[`h`Y`f`Y`U`X]b[`g`U`b`X`f`Y`U`h`X`W`U`g`Y`gh`X]Y`g`U`b`X`ei`Y`g`h`c]b`g`]b`U`
W`c`" `U`V`c`f`U`h]j`Y`U`b`X`f][`c`f`c`i`g`k`U`m`"

H\Y`W`c`i`fgY`]g`b`c`h`U`V`c`i`h`f`c`h`" `Y`U`f`b]b[`ž`Vi`h`f`U`h`Y`f`]b`j`c`j`Y`g`U`W`h]j`Y`m`h`]b_]b[`U` b_`U`f`b_]`

5ggYgga Ybh

5ggYgga YbhHUg_g

5ggYgga YbhHUg_	K Y][\h	8i Y'8UHŸ	Gh XYbh@YUfb]b[Ci hWta Yg'5ggYggYX
DcfhZ`]c`	')	#\$%\$+&\$&%%%\$\$'DA	%ž'&ž'
7`Ugg`DfYgYbhU]cb`	%	@Ughh hcf]U`	%ž'&ž' ž(
9ggUm) \$	% #\$, #&\$&%%%\$\$'DA	%ž'&ž' ž(ž)

5ggYgga Ybh8YHU]`g

F Ygci fWg

DfYgW]VYX F Ygci fWg

•

Gi Va]gg]cb 'cZ5ggYgga YbhiHUg_g

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

Ʒmci 'YbWci bHYf'U'dfcV'Ya 'k \Yb'UH'Ya dh]b['hc'gi Va]hmc i f'Ugg][ba YbhiH'fci [\ 'Hi fb]h]bž'd'YUgY
HY'Yd\cbY'9I HYfbU'Gi ddcfhcb'-',) "' ' ' %cf'Ya U]'H'Ya 'cb'YI HYfbU'HY'f'gi 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'YUfI" Ʒmci
UfY'i bUV'Y'hc'gi Va]hmc i f'Ugg][ba YbhiXi Y'hc'U'Zi 'hk]H'Hi fb]h]b'mci 'a UmUdd'm'Zcf'Ub'YI HYbg]cbž'Vi hmc i
a i ghfYHU]b'mci f'h]W_Yhbi a VYf'Z'ca '9I HYfbU'Gi ddcfhfU'cb['k]H'UbmcH'Yf'f'Yj UbhXcW a Yb'f'g'hc
]bWi XY'Ug'Yj]XYbVW'hc'gi ddcfhmc i f'YI HYbg]cb'Udd'jW]h]cb" Ʒmci 'Ya U]'9I HYfbU'Gi ddcfhmc i 'k]
Ui 'ca UH]WU'm'f'YW]j Y'U'h]W_Yhbi a VYfž'Vi h]Zmci 'HY'Yd\cbY'mci 'k]'b'Y'YX'hc'gd'Y'W]WU'm'Ug_'Zcf'cbY"
Hi fb]h]b'U'gc'dfcj]XYg'i dXUH'g'cb'H'Y]f'gm'g'Ya 'g'H'U'g'cb'Hk]H'Y'f"

; YbYfU'mž'UggYgga YbhiHUg_g'a i ghVY'gi Va]H'Y'X'Y'Y'W'f'cb]WU'mj]U'Y]H'Y'f'Hi fb]h]b'cf'U'A ccX'Y
Ugg][ba YbH' 'b]bg'f'U'V'W'g'k \Y'f'Y'h'g'g'g'bc'hd'cgg]V'Yž'hk]'V'Y'g'H'Y'X'cb'mci f'W'ci fgY'g'A ccX'Y'g]H'k]H
U'HY'fbUH] Y'gi Va]gg]cb'XYHU]g"

: cf]bZ'fa UH]cb'cb'\ck 'hc'gi Va]hUgg][ba Yb'g'cb]bY'j]U'A ccX'Y. \h'hdg.#gh XYb'hi bgk "YXi "Ui #ck!
gi Va]hUgg][ba Yb'ha ccX'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']hYg'Ug'U'gh XYbhUhl BGK
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