



ARTS1030

: cfa g'cZK f]h]b[. '@]hYfUhi fYž; YbfYž7 i `hi fY

HYfa `Cby`#`&\$&\$

7ci fgY`Cj Yfj]Yk

`GHUZZ7cbhUWhi8YHU]`g`

`7cbj Ybcfg`

B Ua Y	9a U]`	5j U]UV]]m	@cWWhcb	D\cbY
G][]`>ch_UbXh	g"ch_UbXh i bgk "YXi "Ui	VmUddc]bha Ybh	K YVghYf' %%>) *, %

GW\cc`7cbhUWhi`bZcfa Uh]cb

Fcca "` %&Z`Yj Y`` `F cVYfhK YVghYf'6i]X]b[

D\cbY. f\$&L'-',) `(,) *

9a U]: [gUa 4 i bgk "YXi "Ui](#)

K YVg]hY: [\hdg.#gUa "Ufhg"i bgk "YXi "Ui](#)

H\Y`GW\cc`cZhY`5fng`UbX`A YX]U`k ci `X``_Y`hc`F YgdYWwZ`m5W_bck`YX[Y`hY`HfUX]h]cbU`7i g]cX]Ubgz`hY`6YXY[U`fP`Ybg]b[hc b`WJa di gLz; UX][U`f7]mUbX`5fh/`8Yg][b`7 Ua di gYgE`UbX`hY`B [i bbUk U`dYcd`Y`f5i ghfU]Ub`8YZYbWV: cfW`5WUXYa m]b`7 UbVYffUe`cZhY`UbXg`k \YfY`YUW`WJa di g`cZI`BGK`]g`cWWhYX"

7 ci fgY'8YHJ`g

7 fYX]hDc]bHg`*`

Gi a a UfmicZ`hY'7 ci fgY

H\]g`Wci fgY`bfcXi W`g`mci`hc`9b[`]g\`h`fci [\`h`Y`gh XmicZ`]hYfUfmZcfa " : cW`g]b[`cb`h`Y`a U`c`f`hYfUfm [YbfYg`cZdcYfmcZdfcgY`UbX`XfUa UZ`h`Y`Wci fgY`k`j`YI`Ua`]bY`k`Um`g`cZk`f]h]b[`]b`9b[`]g\`Zca`U`fU]b[Y`cZ`dYf]cXg`UbX`W`h`fU`fUX]h]cbg`]bW`X]b[`bcb]6f]h]g\`UbX`dFY!Hk`YbhY`h`W`bh`fm`#k`j`U`gc`]bfcXi`W`mci`hc`h`Y`gdYW]U]gYX`j`cW]Vi`UfmicZ`]hYfUfmUbX`hYI`h`U`UbU`mg]g"

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

%`F`Y`Wc[`b]gY`h`Y`XYZ]b]b[`W`UfUW]f]g]h]Wg`cZ`h`Y`a`U`c`f`hYfUfm[YbfYg`]b`9b[`]g\`&"`7`f]h]W`m`UbU`mgY`hYfUfm]hYI`hg`]b`h`Y`fa`g`c`Zei`Yg]h]cbg`cZ`]hYfUfmZcfa`'`" `7`cbXi`W`h`V`Ug]WfYgYUfVX`cb`hYfUfm]hYI`hgzi`g]b[`Uddfcdf]U]hY`gVX`c`UfmiFYgci`fW]g`(` `5`f]h]W`U]hY`UbX`Wc`b`hYI`h`U]gY`mci`f`ck`b`W]h]W`d`cg]h]cb`)"`7`cbg]fi`W`h`UbX`Uf]h]W`U]hY`U`W]h]W`Uf[`i`a`Ybhc]fU`m`UbX`]b`k`f]h]b[`**`I`gY`Uddfcdf]U]hY`Zcfa`Uhg`]bW`X]b[`Wc`ffY`W`hY`ZY`fY`bW]b[`hc`d`fYgY`b`h`mci`f`k`cf_`

HYUWX`]b[`G`h`f`U`hY[`]Yg`

H\Y`Wci fgY`]g`h`U] [\`h`h`fci [\`Y`W`h`fYg`UbX`h`hc]f]U`g`UbX`cbY`l`ci`f`cZg]fi`W`h`fYX`cb`]bY`Y`Ufb]b[`U`W]j`]m`

@Y`W`h`fYg.

H\Y`Y`W`h`fYg`UfY`XYg][`bYX`hc`]bfcXi`W`gh`XYbhg`hc`h`Y`]ggi`Yg`UbX`hYI`hg`cZ`h`Y`Wci`fgY`V`m`d`f`c`j`X]b[`Wc`b`hYI`h`U`]bZcfa`U]h]cbZ`ci`h]bYg`cZ`W]h]W`fYgdc]bgYg`hc`h`Y`hYI`hg`UbX`gca`Y`Wc`gY`X]gW`gg]cb"@Y`W`h`fYg`U`gc`a`cXY`Zc`f`gh`XYbhg`h`Y`k`Um`g`]bZcfa`U]h]cb`]g`c`f[`Ub]nYX`UbX`d`fYgY`b`h`Y`X]gW]d`]bY`cZ`9b[`]g\`H\Y`fY`k`j`VY`c`d`d`c`f`h`b]h]Yg`]b`Yj`Yfm`Y`W`h`fY`Zc`f`ei`Yg]h]cbg`UbX`[`YbYfU`X]gW`gg]cb"7`Y`f]U]b`gVX`Y`Xi`Y`X`Y`W`h`fYg`U`X`X`fYg`h`Y`gdYW]Z]Wg`cZ`UbU`mg]gZ`Uf[`i`a`Yb`h]h]cb`UbX`k`f]h]b[`]b`V`ch`Y`gg`Um`g`UbX`YI`Ua`g`"H\Y`Y`W`h`fY`Zcfa`U]h]g]ja`d`c`f`h`Ub]b]h`U]h]h`XYa`cbg]f`U]h]g`Zcfa`U`a`cXYg`cZ`d`fYgY`b`h]b[`U`g]fi`W`h`fYX`Uf[`i`a`Yb`h]`UbX`Zc`f`h]g`fY`U`g`cb`Y`W`h`fY`U]h]b`X`Ub`W`]g`Wc`a`di`g`c`f`m`9`U`W`X`Y`W`h`fY`k`j`]bW`h`XY`U`g`l`c`f`h`c`b`]bY`ei`]n`k`l`W`a`i`g`h`VY`Wc`a`d`Y`h`X`Xi`f]b[`U`g`d`Y`W]Z]Y`X`h]a`Y`Xi`f]b[`h`Y`Y`W`h`fY`"H\Y`gY`ei`]n`fYgdc]bgYg`k`j`d`f`c`j`XY`U`g`h]U]h]b[`d`c]b]h]Zc`f`X]gW`gg]cb]b`h`hc]f]U`g`"H]a`Y`h`U`V`Y`W`U`g`l`Y`g`a`i`g`h`VY`]bX]j`]Xi`U`m`Uddfc]Y`X`V`m`h`h`Y`Wci`fgY`Wc`b]Y`b`c`f`Z`UbX`UfY`XY`d`Y`b`X`Y`b`h`c`b`W`f]U]b`_`Y`mi`b`X`Y`f]U`_]b[`g`V`m`g`h`XY`bhg`"9`W`X`c`" *`\$`gi`d`d`c`f`h`UbX`D`ck`Y`f`D`c]b`h`b`c`h`Y`g`UfY`d`f`c`j`X`Y`X`j`]U`@`A`G`hc`gi`d`d`c`f`h`h`Y`Y`W`h`fYg`UbX`Zc`f`fYj]g]c`b`Z`b`c`h`U`g`U`gi`V`g]h]i`h`Y`Zc`f`Y`W`h`fY`U]h]b`X`Ub`W`"

Hi`hc]f]U`g.

H\Y`h`hc]f]U`g`fYei`]fY`gh`XYbhg`hc`Yb[`U[`Y`U`W]j`Y`mk`]h`h`Y`Y`W`h`fY`UbX`fY`UX]b[`a`U]h]f]U`UbX`XYj`Y`cd`h`Y]f`ck`b`W]h]W`fYgdc]bgYg"

H\]g`k`j`c`W`W`f`h`fci [\.

- `k`Y`Y`_`m`d`f`Y`d`U`f]U]h]cbZ`]bW`X]b[`XYj`]g]b[`X]gW`gg]cb`ei`Yg]h]cbg`Zc`f`h`Y`[`fci`d`UbX`#`c`f`fYgdc]bgYg`hc`Y`W`h`fY`ei`]n`n`Y`g`
- `g]fi`W`h`fYX`UbX`]bZcfa`U`W`U`gg`X]gW`gg]cb`
- `Wc`U`V`c`f`U]h]Y`k`cf_]b`ga`U`[`fci`dg`"

5`hY`b`X`Ub`W`U`h`UbX`d`U]h]W]d`U]h]cb`]b`h`hc]f]U`g`]g`W`b`f`U`hc`h`Y`XYj`Y`c`da`Y`b`h`c`Z`W]h]W`h`h]b_]b[`UbX`UbU`m]W`g_]g`UbX`]g`h`i`g`a`UbX`U`h`c`f`m`5`hY`b`X`Ub`W`k`j`VY`h`U`_`Y`b`]b`h`hc]f]U`g`"

Cb`]bY`@YUfb]b[`5Wlj]]m

5h`hY`VY[]bb]b[`cZ`hY`W`i fgY`gh XYbhg`k]`W`ta d`Y`h`U`c`bY`l`ci f`a UbXU`h`c`f`m`c`b`]bY`W`c`gY`f`Y`U`X]b[
YI`Y`f`W]gY`"H`l`g`YI`Y`f`W]gY`]g`V`c`h`X]U[bcgh]WU`b`X`Z`c`f`a U`h]j`Y`z`U`b`X`d`f`c`j]X`Y`g`h`l`Y`c`d`d`c`f`h`i`b]m`Z`c`f`Y`U`f`m`Z`Y`X`V`U`W`
Z`c`a`h`i`h`c`f`g`"H`l`Y`U`W]j]]m]g`b`c`h`i`d`U`f`h`c`Z`h`l`Y`U`g`g`Y`g`g`a`Y`b`h`Z`c`f`h`l`]g`W`i`f`g`Y`"

5ggYgga Ybh

5ggYgga YbhHUg_g'

5ggYgga YbhHUg_g'	K Y][\h	8i Y'8UH'	Gh XYbh@YUfb]b[Ci Hta Y)

Hi hcf]U`

6ccW\Ub]ž@a 8dW V 4gf fZW? ag` fS[e UbX`HU_Y
<ca Y`9I Ua `DfYdUfUj]cb

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

G9H`H9L HG`!`Mci`'g\ci`'X`Ybgi`fY`mci`'\Uj`Y`Wtd]Yg`cZH\Y`Zc`ck]b[.

DcYHfm`dcYa`g`gYhZc`f`ghi`Xmk`J`VY`Uj`U]UV`Y`j`]U`h\Y`Wci`fgY`A`ccX`Y`g]H

8fUa`U.`K`J`]Ua`'G\U`YgdYUfYž`=[`Y`>Wsd

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`mYUfL` 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`UbmchYf`fY`Yj UbhXcW a YbHgE`hc
]bWi XY`Ug`Yj]XYbW`hc`gi ddcfhmci f`YI H`bg]cb`Udd`]W]h]cb" Ẓmci `Ya U]`9I H`fbU`Gi ddcfhmci `k]`

5 WUXYa]W<c bYghmiUbX`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[YgžUfhUbX`XYg][b`dfc`YWgžUg`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`U`b[]b[`U`ZYk`k cfXg`UbX`d`fUgYg`k`Y`a cghmiFYhU]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 bXYfghUjX'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'UjX'5W'W'dhUV'Y'I gY'cZ
I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUjX'UfX'g'cZVY\Uj]ci f'YI dY'W'X'cZYj Yfmc'bY']b'Y'Y'I BGK 'W'a a i b]m
- `cW'W'h'gYfj]W'g'UbX']bZ'c'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'Y'fg'k]`VY'bYk "; U]b]b['U'gc`X'i bXYfghUjX]b['cZU`'h'Y
fY'U'Y'X'UgdY'W'g'cZ9@G9'k]`'Y'd'mci 'a U_Y'h'Y'a cgh'cZ'mci f'gh X]Yg'Uhl BGK ""

[\h'c. #g\] 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'Y' \]g'Y](#)

