



ARTS2212

Gci h\YUgh5g]U

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

7 ci fgY'8YHJ`g

7 fYX]hDc]bHg '*`

Gi a a UfmcZ`hY'7 ci fgY

Gi V`YWh5fYU.'3e[S` E fgV[Mé

H\]g`Wéi fgY`Wb`U`gc`VY`gh`X]YX`]b`hY`Zc`ck`]b[`gdYW]U`]gU]cb.`: [efackf ;` Va` Wé[S` E fgV[Mé

H\Y`Wéi fgY`Zc`W`gYg`cb`a`cXYfb`Gci`hYUgh5g]U`g]bW`hY`YbX`cZ`hY`Wé`cb]U`dYf]cX`i`bh`hY`dfYgYbhXUm`
`bghY`UX`cZ`hY`fUX]h]cbU`]bHfdYU]h]cbz`k` \]W`gYg`U`fYbX`hc`k`UfXg`Ui`h`c`f]h]f]Ub]ga`ž`k`Y`g`U`fYUX`
`\]g`h`fm]UbX`dc`]h]Vg`]b`Wé`bhYa`dcfUfm]Gci`hYUgh5g]U`Ug`Ub`i`bfYgc`j`YX`Wé`bZ]W`hVY`k`YY`b`k`c`
`Wé`a`dYh]b[`gmghYa`g`!!`X]WU`h`c`fg`]d`UbX`XYa`c`WU`W`h`H\Y`fY[`]a`Yg`cZA`UfWé`gž`Gi` \Uf`h`ž`A`U`U`h`]fž`@Y`?`i`Ub`
`M`k`ž`hY`?`a`Y`F`ci` [`Yž`6`i`fa`U`i`bXYf`hY`h`U`h`a`UX`U`k` `fU`fa`mž`hY`a`cbUfW`m]UbX`a`]`]h]f]m]b`H\U`]UbXž`UbX`
`J`]Y`h`Ua` `g]bW`%`-`-`k`]`d`f`c`j`XY`g`ca`Y`WU`g`Y`gh`X]Yg`h`f`ci` [`k` \]W`h`c`UbU`mgY`Gci`hYUgh5g]Ub`dc`]h]WU`
`X`mb`Ua`]Wgž`]bW`i`X]b[`Wé`ff`i`d`h`c`bž`b`Y`d`c`h]ga`ž`_`]bg`\]d`dc`]h]Vgž`gc`W]U`a`c`j`Ya`Y`b`h`gž`UbX`hY`i`]b`g`VY`k`YY`b`
`fY`[`]cb`UbX`dc`]h]Vg`" `b`U`X`X]h]cbž`m`ci` `k`]`Y`U`f`b`U`V`ci`h`Wé`bhYa`dcfUfm]gg`i`Yg`gi`W`U`g`a`][`fU]h]cbž`hY`f]gY`cZ`
`hY`A`]X`Y`7`U`gg`Yg`]bW`i`X]b[`d`c`g`h`f`Y`bc`j`U`h]cb`J`]Y`h`Ua`ž`hY`a`U`b`m`Z]W`g`c`Z`h`ci`f]ga`ž`[`Y`b`X`Y`f`UbX`k`ca`Y`b`g`
]gg`i`Ygž`UbX`hY`Y`Z`Y`W`ic`Z`b`U`h`fU`X]gUghY`fg`cb`hY`fY[`]cb`"

7 ci fgY`@YUfb]b[`Ci`hW`a`Yg

- %` 5bU`mgY`_YmYj`Y`b`h`gž`]XYUgž`dYcd`Y`UbX`fYbXg`Wé`j`YfYX`V`m`h`Y`Wé`i`fgY`"
- &` A`U`_`Y`g`W`k`c`U`f`m`U`f`[`i`a`Y`b`h`g`i`g]b[`]b`X`Y`d`Y`b`X`Y`b`h`m`c`W`U`h`X`U`b`X`W`f`Y`X]V`Y`Y`j`]X`Y`b`W`
- '` " `7`cb`X`i` W`h]b`X`Y`d`Y`b`X`Y`b`h`g`W`k`c`U`f`m`f`Y`g`Y`U`f`W`
- (` " `5`b`g`k`Y`f`e`i`Y`g`h]c`b`g`d`c`g`Y`X`i`g]b[`U`f`[`i`a`Y`b`h`U`b`X`Y`j`]X`Y`b`W`
-)` " `8`Y`g`W`]V`Y`f`Y`j`U`b`h`U`g`d`Y`W`g`c`Z`h`Y`X]j`Y`f`g]m]UbX`X`mb`Ua`]ga` `c`Z`h`Y`G`ci`h`Y`U`g`h`5`g]Ub`fY[`]cb`"

HYUW\]b[`G`h`f`U`h`Y`[`]Y`g`

H\]g`Wéi fgY`]g`XYg][`bYX`h`c` \Y`d`m`ci` `XY`j`Y`cd`U`ei`Y`g`h]cb]b[`a`]b`X`k` \Y`b`U`dd`f`c`U`W`k]b[`h`Y`g`h`X`m`c`Z`
`Gci`hYUgh5g]U`YgdYW]U`m`Ug`hY`Y`bh]fY`d`Y`fgd`Y`W`h]j`Y`c`Z`h`Y`Wé`i`fgY`W`U`Y`b[`Y`g`h`Y`X`ca`]b`U`b`h`g`W`k`c`U`f`g`\]d`
`h`U`h]b`HfdYU]h]cb`U`]h]Vg`c`Z`h`Y`fY[`]cb`U`g`U`i`h`c`f]h]f]Ub`" `H\Y`Y`W`h`fYg`d`f`c`j`]X`Y`V`U`W`[`f`ci`b`X`]b`Z`c`f`a`U`h]c`b`
`UbX`]b`f`c`X`i` W`h`h`Y`c`f`Y`h]W`U`b`X`U`b`U`m]h]W`U`d`Y`fgd`Y`W`h]j`Y`g`U`b`X`X`Y`V`U`h]g`h`U`h`U`f`Y`Y`i`d`c`f`Y`X`c`f`Y`i`Ya`d`]Z]Y`X`V`m`h`Y`
`gdYW]U`]n`Y`X`k`Y`Y`_`m`f`Y`U`X]b[`g`" `h]g`]a`d`c`f`U`b`h`h`U`h`m`ci` `Y`U`f`b`h`Y`g`_`]g`c`Z`W`]h]W`U`b`U`mg]g`" `H\Y`g`Y`g`_`]g`b`Y`Y`X`
`h`c`V`Y`X`Y`j`Y`cd`Y`X`fY[`i`U`f`m`c`j`Y`f`h]a`Y`U`b`X`h`h`c`f]U`g`U`f`Y`U`Z`b`X`U`a`Y`b`h`U`d`U`f`h`c`Z`h]g`Y`U`f`b]b[`d`f`c`W`g`g`" `K`Y`Y`_`m`
`f`Y`g`d`c`b`g`Y`g`h`c`h`Y`f`Y`U`X]b[`g`h`f]U]b`g`m`ci` `h`c`f`Y`Z`Y`W`h]U`b`X`U`b`U`mg`Y`U`W`U`X`Y`a`]W`g`W`k`c`U`f`g`\]d`c`b`h`Y`h`c`d]W`U`b`X`
`Y`b`U`V`Y`g`Y`j`Y`f`m`V`c`X`m`h`c`d`U`f`h]W`d`U`h]j`b`W`U`g`g`X]g`W`g`g]c`b`g`" `6`m`h`Y`Y`b`X`c`Z`h`Y`g`Y`a`Y`g`h`Y`f`m`ci` `k`]`b`c`h`c`b`m`
`X`Y`j`Y`cd`W`]h]W`g`_`]g`Vi`h`U`g`c`U`a`U`h`f`Y`Wé`b`Z]X`Y`b`W`]b`d`f`Y`g`Y`b`h]b[`h`Y`j`f`]X`Y`U`g`]b`di`V`]W`H\Y` `b`X]j`]X`i`U`
`9`i`Y`f`W]g`Y`U`gg][`ba`Y`b`h]g`U`b`c`d`d`c`f`h`b]m]m]Z`c`f`m`ci` `h`c` \U`j`Y`m`ci`f`c`k`b`c`f][`]b`U`f`Y`g`Y`U`f`W`d`f`c`Y`W`h`k` \]Y`h`Y`Y`gg`U`m`
`X`Y`j`Y`cd`g`m`ci`f`f`Y`g`Y`U`f`W`ž`U`b`U`m]h]W`U`b`X`k`f]h]b[`g`_`]g`Z`f`h`Y`f]b[`m`ci`f`X`Y`j`Y`cd`a`Y`b`h`U`g`U`g`W`k`c`U`f`c`Z`
`Gci`hYUgh5g]Ub`gh`X]Yg`" `9`b[`U[`Ya`Y`b`h`k`]h`h`Y`Wé`i`fgY`Wé`bhY`bh]g`Z`f`h`Y`f`Y`b`Wé`i`fU[`Y`X`U`b`X`U`gg`Y`gg`Y`X`V`m`
`U`b`Y`b`X]c`Z`h`Y`fa`h`Y`g`h`"

Hi fb]hjb'gYHjb[. H\]g'jg'bchU'Hi fb]hjb'Ugg][ba Ybh

5ggYgga Ybh&. F YgYUfW\ '9ggUm

GHUfhXUHY . &) #/\$#&\$%- '\$) . \$\$ 'DA

@Yb[h\ . 'W \$\$\$ k cfXg

8YHU]`g. 'F YgYUfW\ '9ggUmVfc_Yb'Xck b']bhc—V]V`c[fUd\mžUVghfUWbUbx'Z]bU`YggUmGh XYbtrg'k f]h'Ub YggUmfWU"" \$\$\$ k cfXgE]b'fYgdcbgY'hc'cbY'cZhY'ei Ygh]cbg'i g]b['gWkc'Ufg\]d]b'Gci hYUgh5g]Ub gh X]Yg": YYXVUW_]g'h'fci [\]bX]j]Xi U`Wta a Ybtrg'Ubx'fi Vf]W'H\]g'jg'hY'Z]bU`UggYgga YbhZcf'Uf]YbXUbW di fdcgYg"

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

D`YUgY`c[]bhc'hY'A ccX'Y'G]h'Zcf'hY'Wci fgY'UbX'UWWgg'hY'Z]Y'Ybh]hYX'"9ggUmHcd]Wg'UbX 6]V`c[fUd\]Yg""

Hi fb]hjb'gYHjb[. H\]g'Ugg][ba Ybh]g'gi Va]hYX'h'fci [\ 'Hi fb]hjb'Ubx'gh XYbtrg'WUbb'gYY'Hi fb]hjb'ga]Uf]hm fYdcftrg"

5ggYgga Ybh' . F YgdcbgYg'hc'fYUX]b[g

GHUfhXUHY . 'k YY_g'&'UbX'('

@Yb[h\ . ') \$\$!* \$\$ k cfXg

8YHU]`g. 'Gh XYbtrg'gi Va]hU'fYgdcbgY'fWU"" \$\$!* \$\$ k cfXgE'hc'gYhei Ygh]cbg'cb'k YY_'mfYUX]b[g'VYZcfY h'c'h'hc'f]Ug": YYXVUW_]g'Vm]bX]j]Xi U`Wta a Ybtrg'Ubx']b]WUgg'X]gW'gg]cb"

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

GYY'hY'Z]Y`Hi hc'f]U`F YUX]b[g'UbX'E i Ygh]cbg'Zcf'8]gW'gg]cb""]b'hY'A ccX'Y'g]h'hc'Z]bX'hY'fY'Yj Ubh ei Ygh]cbg'Zcf'hY'ei fbU'g'Xi Y'Uh'h'hc'f]U'g']b'k YY_g'&'UbX'(' 'F YUX]b[g'UfY'U`X][]h]gYX'Ubx'UWWgg]VY'hc gh XYbtrg'j]U'hY'[fYYb'@Y[Ubhc""VfUfmi"]b_]b'hY'A ccX'Y'g]h'hc'Zcf'h]g'Wci fgY"

H\Y'ei fbU`ffYgdcbgYg'hc'fYUX]b[gE]g'Ub'Yi hfYa Y'm]a dcf]UbhWta dcbYbhcZhY'hY'UggYgga Ybh' Hi hc'f]U'g'k]`cb'mk cf_]Zgh XYbtrg'Wta Y'hc'WUgg'dfYdUfYX'Zcf'X]gW'gg]cb"" Gh XYbtrg'g'ci 'X'Xc'hY fYei]fYX'fYUX]b['Zcf'hY'k YY_'UbX'Wcb]f]Vi h'hc'hY'WUgg'X]gW'gg]cb']b'Ub']bZcfa YX'a UbbYf""H\Y gi Va]gg]cb'cZhY'ei fbU`Ybgi fYg'h'Uhighi XYbtrg'k]`Wta Y'hc'hY'WUgg'dfYdUfYX"

Hi fb]hjb'gYHjb[. H\]g'Ugg][ba Ybh]g'gi Va]hYX'h'fci [\ 'Hi fb]hjb'Ubx'gh XYbtrg'WUbb'gYY'Hi fb]hjb'ga]Uf]hm fYdcftrg"

5ggYgga Ybh(. '7`Ugg'hYgh

GHUfhXUHY . '&#/\$#&\$%- '\$- . \$\$ '5A

8YHU]`g. 'Gh XYbtrg'Wta d`Yh'U'hYghfWU""&'ci fgE'Ubgk Yf]b['ei Ygh]cbg'VUgYX'cb'hY'`YWh'fYg"

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

H\Y`WUgg`hYghk]`VY`cb` : f]XUmžBcj Ya VYf`&&ž&\$%- `Xi f]b[`h\Y`i gi U`Y`Wñ fY`g`ch- !%%`"Gh XYbHg
Ybfc`YX`]b`h\Y`K 96 j Yfg]cb`cZh\Y`Wèi fgY`k \c`WUbbchia U_Y`h\]g`hja Y`g\ci `X`WèbHJWñh\Y`Wèi fgY
Wèbj Ybcf`]b`k YY`_%g]bW`U`a U_Y`i d`hYghk]`VY`cf[Ub]gYX`Zc`f`h\Ya ""`H\Y`hYghk]`VY`VUgYX`cb`Y`Wñ fYg
UbX`h`hcf]U`g"

≡\Uj Y`dfcj]XYX`U`Y`Wñ fY`UbXci hZc`f`YUW`Y`Wñ fY`hcd]W`H\]g`UbXci hgi a a Uf]gYg`h\Y`a U]b`dc]bHg`cZh\Y
`Y`Wñ fY`"H\Y`mUfY`Uj U]UV`Y`]b`h\Y`A ccX`Y`G]hY`i bXYf`U`Z]Y`Yb]hYX`"@Y`Wñ fY`< UbXci hg`"H\Y`mk]`VY
\UbXmZc`f`bc`h`hU_]b[`Uh`Y`Wñ fYg`UbX`Zc`f`Yj]Yk]b[`Zc`f`h\Y`hYgh`

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

5 hYbXUbW`F Yei]fYa Ybhg

Gh XYbhg`UFY`ghfcb[`mYbWci fU[YX`hc`UhYbX`U`WUggYg`UbX`fYj]Yk`YWhi`fY`fYWc`fX]b[g"

7 ci fgY`GWXYXi `Y`

[J \]Yk`WUgg`Hja`YhUV`Y`](#)

H]a`YhUV`Y`

8 UHf	HmdY	7 cbhYbh
K YY_`%`%*`GYdhYa`VYf\$ &\$`GYdhYa`VYf	@YWhi`fY% _{oo} % _{oo} % _{oo}	% _{oo} % _{oo} % _{oo}

	Hi hcf]U`	ϕX]j]Xi U`9I YfW]gY`dfYgYbH]cbg
K YY_`-`.%%Bcj Ya VYf!	@YWh fY	; YbXYf`]b`Gci hYUgh5g]U
%` Bcj Ya VYf	Hi hcf]U`	ϕX]j]Xi U`9I YfW]gY`dfYgYbH]cbg`Wt`bh]bi YX
K YY_`%\$.`%` Bcj Ya VYf!	@YWh fY	7`Ugg`HYgh
&&Bcj Ya VYf		

F Ygci fWg

DfYgWf]VYX F Ygci fWg

H\YfY'UfY'bc'hI h'cc_g'fYei]fYX'Zcf'h.]g'Wci fgY"

D'YUgY''c[']bhc'hY'A ccX'Y'G]h'Zcf'hY'7ci fgY"5''fYUX]b[g'Zcf'hY'h'hc'f]U'g'\Uj Y'VYb'X][]hgYX'Zcf
ghi XYb'hg'UbX'UfY'UW'W'gg]V'Y'j]U'hY' '[fYYb'@Y[Ubhc'']b_'hc'hY'']VfUfm'Yb'h]hYX!! 'F Yei]fYX'fYUX]b[g'Zcf
hi hc'f]U'g'"D'YUgY''c[']bhc'hY'A ccX'Y'g]h'Zcf'hY'Z'Y'cb'Hi hc'f]U'F YUX]b[g'UbX'E i Ygh'cbg'Zcf'8]gW'gg]cb"

F YWca a YbXYX F Ygci fWg

D'YUgY''c[']bhc'hY'A ccX'Y'G]h'Zcf'hY'Wci fgY'UbX'W]W'cb'hY'Z'Y''9ggUmE i Ygh'cbg'UbX'6]V']c[fUd\]Yg'
k\]W'\Ug'hY'']ghcZYggUmei Ygh'cbg'UbX'fYWca a YbXYX'fYUX]b[g'Zcf'YUW'hcd]W

7ci fgY'9j U'i Uh]cb'UbX'8Yj Y'cda Ybh

Gh XYbhYj U'i Uh]cb']g[U'hYfYX'h'fci [\ 'A m9I dYf]YbW'WcgY'hc'hY'YbX'cZ'hY'h'fa "'H\Y'ZYYXVUW'Ugh
mYUf'k Ug'j Yfmidcg]h] Y'UbX'hY'cb'mia U'cf'W'cbW'fb'k Ug'hY'bi a VYf'cZUggYgga Yb'hg' 6'fYgdcbgY'hc'h.]g'=
\Uj Y'fYXi W'X'hY'bi a VYf'cZUggYgga Yb'hg'Zcf'h.]g'Wci fgY"=fYXi W'X'hY'bi a VYf'cZfYgdcbgYg'hc'
fYUX]b[g'Zca '('hc'&'UbX'W hXck b'hY'bi a VYf'cZfYUX]b[g'hc'UX↑ gh'hc'hY'%'k YY_'h'fa "

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`ihk]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 YbHgk`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 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[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 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 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][\hžI 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'gh'UjX'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'U'Y'gY'fj]W'g'UbX']b'Z'f'a U'h'c'b'UV'ci hi 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' #\]i 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]WbZcfa Uh]cb`

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

• fYei Ygh]Zc`fYI hYbg]cb/

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