



# ARTS1120

9I dYf]YbW]b[ 'H\YUhfY

HYfa 'Cby''##'&\$&\$

7 ci fgY`Cj Yfj JYk

`GHUZZ`7 cbhUW`i8YHJ`g`

`7cbj Ybcfg`

B Ua Y	9a Uj`	5j Uj`UVj`]m	@cWjhcb	D\cbY
>cbU\U`b`6c`Yb	^Vc`Yb4 i bgk "YXi "Ui	A cbXUmgž %%Ja !%da /c\Yf hja Yg`Ya Uj`Zcf Uddc]bha Ybh	K YVghYf`&(*8	Z`*%&`-' , ) \$+%-

GW\cc``7cbhUW`i`bZcfa Uhjcb

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

D\cbY.`f\$&ž`-' , ) `( , ) \*

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

K YVghYf: [\hdg.#gUa "Ufng"i bgk "YXi "Ui](#)

H\Y`GW\cc``cZH`Y`5fng`UbX`A`YX]U`k`ci`X``\_Y`hc`F`YgdYWZ`m5W\bck`YX[`Y`hY`HfUX]hcbU``7`i`ghcX]Ubgž`hY`6YXY[`U`fP`Ybg]b[`hcb`WJa`di`gž;`UX][`U`f7`]mUbX`5fV`8Yg][`b`7`Ua`di`gYgE`UbX`hY`B`[`i`bbUk`U`dYcd`Y`f5i`ghfU]Ub`8YZYbVW`:`cfVW`5WUXYa`m]b`7`UbVYffU`cZH`Y`UbXg`k`YFY`YUWX`WJa`di`g`cZI`BGK`]g`cWJhYX"

7ci fgY'8YHJ]`g

7fYX]hDc]bHg`\*`

Gi a a UfmicZh\Y'7ci fgY

8c'mci`k Ubhlc`gYY`dYfZcfa UbW`"j] Y`cb`gHJ[ Y3'8c'mci`k Ubhlc`Z]bX'ci h\ck`j]Hg'a UXY3'A UmVY'mci`'j Y VYYb'a cj YX`VmUb`UWc`f`g`dYfZcfa UbW`Z`Ua UnYX`VmH\Y`VYUi`hmicZUb]ja U[ Y`cf`WJi [ \hU[ `]ja dgY`cZ gca Yh]b[ `VYmc`bX`k`cfXg`" `b`h\]g`Wci`fgY`mci`k`j`"Yi`d`cfY`\ck`Ufh]ghg`WYUHy`a YUb]b[ Z`"Yi`dYf]YbW`g`]b dYfZcfa UbW`"G]HJ[ ]b[ `gW]d]hg`Z`XYg[ ]b]b[ `gW`bYg`Z`XYj ]g]b[ `UW]cbg`-`mci`"YUfb`UVci`hH\Y`dfcW`gg`cZ a U\_]b[ `h\YUfY`UbX`\ck`h`c`di`hmi`f`ck`b`]XYUg`]b`c`d`fUW]W`"H\]g`]g`U`Z`ci`bXU]cbU`Wci`fgY`]b`dYfZcfa UbW UbX`dfcXi`W]cb`" `hcdYbg`i`d`cddcfi`b]h]Yg`Z`c`f`UW]b[ `Z`X]fYW]b[ `UbX`XYg[ ]b`Z`VUW`g]HJ[ Y`dfcXi`W]cb`Z`gW]dh k`f]h]b[ `UbX`fYj`]Yk`]b[ `h\Y`Ufhg`"

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

- %`8YgW]VY`UbX`]b]h]fdYhU`h\YUfY`Yj`Ybh]b`hYfa`g`cZ]hg'a`i`h]d`Y`g][`b]Z]h]b[ `Y`Ya`Ybhg`UbX`h\Y]f Wca`d`Yi`]b]h]fUW]cbg`i`g]b[ `gYa`]ch]W]hYfa`g`UbX`WcbW]d]hg
- &`5bU`mgY`fY`U]h]cbg\]dg`VY]k`YYb`fU]k`h\YUfY`Yj`Ybh]g`Z`h]i`hg`Z`d`fUW]W]g`UbX`h\Y`c]f]Yg`Z`UbX`fU]k`h\Y]f gcW]U`UbX`\]g]h]c]f]W]`Wcb]h]Y]h]g
- '`8]gW`gg`Z`Wca`d`UfY`UbX`Wcb]fU]gh]h\Y`U]ja`g`UbX`UddfcUW]Yg`h`c`d`YfZcfa`UbW`a`U\_]b[ `UbX`Ui`X]YbW]fYW]d]h]cb`cZ`Y`m]d]fUW]h]cb]Yfg`UbX`h\Y`c]f]g]h]`]b`h]k`Ybh]Y]h]!W]bh]f]m]k`Yg]h]f]b`h\YUfY`UbX Wcb]h]a`d`c]f]U]m]d]YfZcfa`UbW
- ("`D`Ub]Z`a`U\_]`UbX`d`fYg]Ybh]U`d`YfZcfa`UbW`VUg]YX`cb`Wc`"U]Vc]f]U]h]`Y`fYg]YU]f]W
- )`C`d`Y`f]U]h`Y`Z]Z]W]h]`Y`m]b`h\Y`i`b]j`Yfg]m]Y]b]j`]f]c]b]a`Ybh]Ug`U`g]Y`Z`a`c]h]j`U]h]X`g]h]XYbh]cZ]h\YUfY`UbX dYfZcfa`UbW`"

HYUWX`]b[ `G]h]fU]h]`[ ]Yg`

5F`HG%%&`\$`]g`U`Wc]fY`@Yj`Y`"H\YUfY`UbX`DYfZcfa`UbW`G]h]X]Yg`f]HDG]k`Wci`fgY`h\U]h]U]a`g`h`c`Z]Ja`]j]U]f]h]Y gh]XYbh]g`k`]h`h\Yfg]c`X`WcbW]d]hg`UbX`i`g]Y]Z`"UbU`m]h]W]U`hYfa`g`" `h]d]f]c]j]XYg`h\Y`Vi`]X]b[ `V`c]W]g`Z`c]f`h\Y a`U`c]f]h]m]cZ]h\Y`Wci`fgYg`]b`h\Y`HDG`A`U`c]f]j]b]h]c]Xi`W]b[ `Z`bXUa`YbhU`"b]ck`YX[ Y`UbX`g\_]`g`]b[ `dYfZcfa`UbW UbU`mg]g/]`g]h]c]f]W]`Ygg]Um]k`f]h]b[ `cb`d`YfZcfa`UbW`d`fUW]h]cb]Yfg`UbX`d`U]m]g]W]d]hg`]b`Wcb]h]i`h`UbX`[`fci`d] XYj`]g]YX`fY\YUfgU`UbX`di`V`]WdYfZcfa`UbW`d`fUW]W]"

5F`HG%%&`\$`]g`g]h]i`W]h]fYX`Ug`U`Wca`V]b]U]h]cb`cZU`k`YY`\_`m`YW]h]fY`UbX`U`k`YY`\_`m]h]h`c]f]U`k`Y`fY`X]g]W`gg]cb]Z`d`fUW]W]VUg]YX`UbX`gh]XYbh]YX`YUfb]b[ `dfcW`gg]Yg`h]U`Y`d`U]W]W]H\Y`Y`W]h]fYg`UfY`fY`U]h]j`Y`m]h]YUW]Yf]YX`UbX`]b]h]c]Xi`W]`WcbW]d]hg`Yi`d`cfYX`]b`d`fUW]W]U`h]h`c]f]U]g`"H\Y`h]h`c]f]U]g`Z`c]g]h]f`g\_]`g`]b`g]Y`Z`X]fYW]h]X`UbX`[`fci`d] VUg]YX`YUfb]b[ `h]fci`[ \`U`g]Y]f]Y]g`cZ]gh]XYbh]YX`fY\YUfgU`g`Z`W`a`]b]U]h]b[ `]b`U`d`YfZcfa`UbW`d`fYg]Ybh]U]h]cb`Yj`Ybh`"

HYUWX]Yf]YX`YUfb]b[ `UbX`Z]W]h]U]h]cb.`H\Y`Wci`fgY`Wcb]Ybc]f]h]c`[ Yh]Yf`k`]h`]b]j`]h]X`[`i`Ygh]Y`W]h]fYfg`UbX`h]h`c]fg]Z`k`]`cZ]Yf]h]UW]Yf]YX`YUfb]b[ `h]fci`[ \`ci`h]h\Y`Wci`fgY`" @YW]h]fYg`UbX`h]h`c]f]U]g`k`]`XYj`Y`cd`mci`f`Z]Ja`]j]U]f]h]m]k`]h`h\Y`gi`V`Y`W]h]UbX`d]f]c]j`]X]Y`U`Z`ci`bXU]h]cb`Z`c]f`Z`f]h]Yf`gh]Xn]h]HYUWX]b[ `g]f]U]Z]k`]`U`gc`Z]W]h]U]h]`[`fci`d`d`fYg]Ybh]U]h]cb]g`V]m]gh]XYbh]g`"

;`fci`d]VUg]YX`GY`Z]8]fYW]h]X`@YUfb]b[ `fG]8`@`" `b]d]fYdU]f]U]h]cb`Z`c]f`h\Y`";`fci`d]D`fUW]W]U`D`fc`Y`W]h]gh]XYbh]g`k`]`VY`]b]j`c]j`YX`]b`a`UbU[ ]b[ [ `fci`d]YUfb]b[ `UbX`d]f]c]V`Ya`!gc]j`]b[ `Vch`]b`UbX`ci`hcZ]h\Y`k`YY`\_`m]Wci`fgY`h]ja`Y`g`c]h`H\YfY`]g`bc`fYe]i`]fYX`fYUX]b[ `gYh]Z`c]f`h\YgY`U]gh]Z`ci`f`k`YY`\_`g`" `b]gh]YUX`Z`d]fYdU]f]U]h]c]f]m]k`c]f`\_`k`]`Wcb]g]gh]c`Z`]b]X]j`]Xi`U`fYg]YU]f]W]Z`[`fci`d]a`YY]h]b[`g`UbX`#`f`[`fci`d]fY\YUfgU`g`"

# 5ggYgga Ybh

## 5ggYgga YbhHUg\_g`

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DYfZcfa UbW'5bU'mg]g`	&\$i	%+#\$' #&\$&\$'%%) - 'DA	%z&z)
9ggUmi	( \$i	\$+#\$ ( #&\$&\$'%%) - 'DA	&z ž)
DfUW]WJ'Dfc YW	' \$i	&+#\$ ( #&\$&\$' \$&.\$ \$'DA	( ž)
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## 5ggYgga Ybh8YHU]`g

5ggYgga Ybh% 'DYfZcfa UbW'5bU'mg]g

GHUfhXUH. 'Bch5dd`]WVY

@Yb[ h. '%z\$\$\$'k cfXg

8YHU]`g. 'K f]h' U'%z\$\$\$!k cfX'UbU'mg]g'cZcbY'fYWbhHUYUfY 'Yj YbhfZca 'hY`]ghcZHUYUfY 'Yj Ybhg'dfcj ]YX  
]b'WUggE' F i Vf]W]bX]WU]b[ 'Yj Y`cZdYfZcfa UbW'U[ U]bghYUW'UggYgga YbhW]hYf]Užk f]hYb'Zcfa Uhj Y  
ZYXVUW\_zUbX'dYfWbhU[ Y'[ fUXY"

Hi fb]hb'gYhb[ . 'H\]g'Ugg][ ba Ybh]g'gi Va ]hX'hfci [ \ 'Hi fb]hb'UbX'ghi XYbhg'Xc' bchgYY'Hi fb]hb  
g]a ]Uf]m

5ggYgga Ybh(. : ǝX]j ]Xi U`7cbhf]Vi h]cb`hc`DfUW]WU`Dfc`YVh

GHUfhXUH. `Bch5dd`]WUV`Y

8YHU]`g. : c`ck ]b[ `h\Y`dfYgYbhU]cb`cZ`h\Y`DfUW]WU`Dfc`YVh`mci`k`j`V`a`d`Y`U`G`Y`Z`9`j`U`i`U`h]cb`UbX`D`Y`Y`f`F`Y`j`Y`k`Z`c`f`a`" `H`\\`g`k`j`" `]b`Z`c`f`a` `h\Y`U`g`g`Y`g`g`a`Y`b`h`c`Z`m`c`i`f`V`c`b`f`]`V`i`h]cb`hc`V`c`h`h\Y`d`f`c`W`g`g`U`b`X`d`f`c`X`i`V`h`c`Z`h\Y`D`f`U`W`]`W`U`D`f`c`Y`V`h`U`\_`]b[ `]b`h`c`V`c`b`g`]`X`Y`f`U`h]cb`m`c`i`f`" `Y`j`Y`" `c`Z`U`h`Y`b`X`U`b`W`Z`e`i`U`]`h`m`c`Z`d`U`f`h]W`d`U`h]cb`Z`V`c`b`f`]`V`i`h]cb`hc`[ `f`c`i`d`h`U`g`\_`g`U`b`X`Z`]b`U`d`f`Y`g`Y`b`h`U`h]cb`Z`U`b`X`Z`Z`]a`Y`b`h`c`Z`[ `f`c`i`d`f`c`Y`" `H`\\`g`]`g`h\Y`Z`]b`U`U`g`g`Y`g`g`a`Y`b`h`U`g`\_`" `F`i`V`f`]`W`]`b`X`]`W`h]b[ `Y`j`Y`" `c`Z`d`Y`f`Z`c`f`a`U`b`W`U`[ `U`]`b`g`h`Y`U`W`U`g`g`Y`g`g`a`Y`b`h`W`]`h`Y`f`]`U`Z`k`f`]`h`Y`b`g`i`a`a`U`h]`Y`Z`Y`X`V`U`W`\_`Z`U`b`X`d`Y`f`W`b`h]`Y`[ `f`U`X`Y`"

Hi fb]h]b`g`Y`h]b[ . `H`\\`g`]`g`b`c`h`U`Hi`fb]h]b`U`g`g`[ `ba`Y`bh



K YY_ ; . * '5df]'! '%\$'5df]'	@YWh fY	DfUWjWU`Dfc YWñ-F Y\YUfgU`g" F Yj ]Yk `fYgYUfW` 6Y[ ]b`fY\YUfg]b[ ]b`mci f`U`cWUHYX`j Ybi Y"
	Hi hcf]U`	DfUWjWU`Dfc YWñ-W`b]bi Y`fY\YUfg]b[ "DfYgYbhiUb UW]cb`"ghUbX`XYg][ b`W`bW`dhlc`mci f`Hi hcf/`A Uf_ A ]hXY`"
	5ggYgga Ybh	9ggUmXi YžHi YgXUmž`+`5df]`&\$&\$
K YY_ - . % '5df]'! '%+ 5df]'	@YWh fY	Di V`]W\c`]XUm`Bc`YWh fY"
	Hi hcf]U`	DfUWjWU`Dfc YWñ-W`b]bi Y`fY\YUfg]b[ "GHU[ Y`U dfcj ]g]cbU`k U`!h`fci [ \`cZhY`dYfZcfa UbW`f]hg gYei YbW`gžUffUb[ Ya Yb]g`UbX`YZYWgŁ`DfYgYbh mci f`V`cW_]b[ #W`cYc[ fUd\mih`mci f`Hi hcf`UbX`A Uf_ A ]hXY`"
K YY_ %\$ . &\$'5df]'! '&( 5df]'	@YWh fY	DfUWjWU`Dfc YWñ-W`b]bi Y`fY\YUfg]b[ "
	Hi hcf]U`	DfUWjWU`Dfc YWñ-Z`"fY\YUfgU`cZW`a d`YH dYfZcfa UbW`-`dfYgYbh`mci f`gci bX#[ \h]b[ #YWX d`Ub`hc`mci f`Hi hcf`UbX`A Uf_`A ]hXY`"
K YY_ %% '&+`5df]'! '&, 5df]'	@YWh fY	DfUWjWU`Dfc YWñ-HYWX`#fYgg`F Y\YUfgU`fI \$ a ]bi hYg`VYhk`YYb`- Ua`!%da`žhc`VY`UXj ]gYXŁ`UbX DYfZcfa UbW`f]YWh fY`g`chž`&da`!`.'`\$da`Ž`Vi`a`d!ci`h '`\$`a`]bi`hYgŁ`
	Hi hcf]U`	Bc`h`hcf]U`g
	5ggYgga Ybh	DfUWjWU`Dfc YWñUbX`ŁX] ]Xi U`7`cbf]Vi h]cb`Xi Yž A`cbXUm`&+`5df]`&\$&\$

F Ygci fWg

DfYgWfjVYX`F Ygci fWg`

9I dYWfX`fYgci fWg`Zcf`hY`Wci fgY`UFY`Uj U]`UV`Y`Zca` I`BGK` `@jVfUfmj`jU`A`ccX`Y`"

Gh XYbfg`UFY`YI`dYWfX`hc`Uhh`bX`tk`c`dYfZcfa`UbWfg`zcbY`cb`WJa`di`g`zcbY`cZ`WJa`di`g`z`Ug`dUfhcZ`hY`Wci`fgY`"8YhU]`g`UVci`hdYfZcfa`UbWfg`UFY`dfcj`jYX`cb`A`ccX`Y`"



Gi Va ]gg]cb`cZ5ggYgga YbhHUg\_g

Gi Va ]gg]cb`cZ5ggYgga YbhHUg\_g

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

≠mci`YbWci bHYf`U`dfcV`Ya`k`Yb`U`HYa`dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybh`h`fci`[`\`Hi`fb]h]b`z`d`YUgY`  
HY`Yd`cbY`9I`HYfbU`Gi`ddcfhcb`-`,`)`'`'`'`%cf`Ya`U]`h`Ya`cb`YI`HYfbU`HY`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`mY`UfL`≠mci`  
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`YbhXi`Y`hc`U`ZU`hik`]h`Hi`fb]h]b`mci`a`UmiUdd`miZc`f`Ub`YI`HYbg]cb`z`Vi`hmc`i`  
a`i`ghfY`hU]b`mci`f`h]W`Yhbi`a`VYf`Zca`9I`HYfbU`Gi`ddcfhfU`cb[`k`]h`Ubmc`h`Yf`fY`Yj`UbhXcW`a`Yb`hg`L`hc`  
]bWi`XY`Ug`Yj`]XYbW`hc`gi`ddcfhmc`i`f`YI`HYbg]cb`Udd`]W]h]cb"≠mci`Ya`U]`9I`HYfbU`Gi`ddcfhmc`i`k`]"`

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

D`U[ ]Uf]ga `]g`i g]b[ `h`Y`k cfXg`cf]XYUg`cZc`h`Yfg`UbX`dfYgYbh]b[ `h`Ya `Ug`mci f`ck b" `h`WUb`hU`Y`a Ubm  
Zcfa g`z`Zca `XY`]VYfU`h`W`Y`U`h]b[ `h`c`UW`Y`X`Y`b`U`m`W`c`dm]b[ `Zca `U`gci f`W`k ]h`ci h`UW`bck `YX[ Ya Yb`f`

I BGK `[ fci dg`d`U[ ]Uf]ga `]b`h`c`h`Y`Zc`ck ]b[ `W`U`h`Y`c`f]Yg.

7 cdm]b[ .`i`g]b[ `h`Y`g`Ua`Y`c`f`j`Y`f`m`g]a ]U`f`k`c`f`X`g`h`c`h`Y`c`f][ ]b`U`h`I`h`c`f]X`Y`U`k ]h`ci h`UW`bck `YX[ ]b[ `h`Y

- 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'j]b'h'Y'I BGK 'W'a a i b]m
- 'cW'W'h'gYfj ]W'g'UbX'j]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'Y'fg'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'Y'g''j\]VfUfm'i b'gk "Y'X'i "U'i #' \]g'Y'#J'V'ci h' \]g'Y](#)

5 WXYa ]WbZcfa Uhcb`

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