

([SØRUIQJ \$ QMVRFLDØ3 HUVRQDDW ' LVRLGHUDQG' RP HMMF 9 LRØQFH 8 QUDYHØØQJ & RP SØJ & DXVHV DQG (IIFWYH, QMUYHQMRQV

& KH XN Ø K B Ø

/DZ 6FKRRO -LQDQ 8QLYHUVLW\ *XDQJJKRX

& KLQD

\$ EVWDFW ' RP HMMF YLRØQFH LV NQRZ Q VR KDYH D VJQILFDQMLP SDFWRQ ERK VSRXHV DQG FKØUHQ 7KLV
FRP SUKH-QLYH HJ SØUDNRQ G-ØYH LQR VHV LQWIFDM UHØNRQKLSV EHØZHQ FKØKRRG HJ SRXUH VR ' RP HMMF
9 LRØQFH ' 9 VHVGHYØSP HQVRI DQVFRFDØSHUVRQDDW GVRUGHU DQG VHV SURFXGHP RVRQDØLP SDFVRI WDXP D
, VXCQRYHV/DFFP SØJ VØSHWV RI LQWIFRQFVAVGFKØØQJHV G-P DØGLOJ P XQVDFHNGVROXMRQ/ \$ VVHV SUHQVAVG
QDYLDMMVHVZ HE RI VHVH LQWIFDM LVXHV VMLV SØSHUXQYHØMMH SUHMLQJ QHG I RUDKROVDF DSSURDFK VMDVQRYHV
LQGYLXØDY IDP LØHV SURHVMRQDY DQG SØFA P DNHV % DFNCRZ ØGILQJ VHVSHYDLYHØMMHRI VHVHFKØØQJHV
DQG HP EUDFLOJ P XQVDFHNGVROXMRQ/ VHV DVMRVU/FDQFRØFVYHØ VMLYH VR EUDN VHV FØV RI YLRØQFH QXMMH
HP SDM DQG FØXQVDMHØVURQF HQVZ KHUHQGYLXØDY FDQK-DOVMLYH DQG WDDQ/RUP VHVLUØHVAVRUVH/EH RØG VHV
VØGRZ V RI VHVLU WDXP DMF SDW 7KLV DUNFØ RI HV VYHØDØLGH-DV RQ KRZ VR UHGXFH VHV QJUDYH IP SDFVRI
GRP HMMF YLRØQFH 7KH SUHQVAVG FRQVEXM VR D EHVHVXQGHUVWØGLOJ RI VHV LQ ØHØFLOJ P FFKØQV RI VHV
IP SDFVRI GRP HMMF YLRØQFH DQG VR VHV SUHYHQMRQRI FKØUHQV HJ SRXUHVR ' 9

, QMRGXFMARQ

7KH ILWV LV DQVFRFDØ SHURQDDW GVRUGHU ZKLFK LV
FKØUDFMMVHG E DFRQVAVQVAVUH DØG I RUHMLFDØVWØGLOJ/
DQG VHVH HØØQV RI RMMHV 2 YHUKDØ RI FKØUHQ HJ SHUHØFH
DV ØDWR RØH DGYHVH RU WDXP DMF HYHQV GVLQJ VHVLU
XSEUQILQJ 7KHV FKØKRRG DGYHVAVH IUTXHQØ
HØFRP SDW/RUP VRI FKØG DEXHV VFK DV/SK VFDØHP RVRQDØ
RU VHV XØ DEXH DV ZHØ DV LQWØFHV RI QJØFVW DQG
GVLXSMRQ/LQ IDP LØ G QP LFV QNH GYRUVH VHV ØV RI D
ØYHG RØH RU VØWØFH DEXH ZLVMLQ VHV IDP LØ > @ , V
HP HVHV LQ DØRØVØFH RU HØV DØXØMRG DQG LV
FKØUDFMMVHG E GVMHVMLQJ EHØYRUV P DØSXØMRQ DQG
FDØØXQHV 7KHV LQGYLXØDY RVMØ DFN HP SDM ØDØQJ
VR WØDØG UHØNRQKLSV DQG ØV DØSØRØP V ' LDJØRV LV
FRP SØJ GYH VR P DØSXØMRQ EXV LQMMVHVZV DQG
DMMVPHQV KHS VR P DNH DQ DFFXDM LG-QVLFDMRQ
7UHDV HQV VFK DV FRJQVYH EHØYRUV DØ VHVDS FDQ
DØGUV XQGHØLQJ LVXHV 5FRJQVMLQ VHV FRP SØJ LV RI
VHV GVRUGHU LV FVFDØ IRU SURHVMRQDY DQG VRFHV \$
VPLØU LVXHV LV ' RP HMMF YLRØQFH ' 9 ZKHU SHURQDØ
IDFARUV VFK DV SRRU VRFDØVWØG DQG SHURQDØYLFHV DV ZHØ
DV IDP LØ IDFARUV VFK DV SRRU SØUHQV DQG EURHQ
VAVFMMH FRQVEXM VR VHV SØRØP 5FRJQVMLQ DQG
DØGUVMLQ VHVH IDFARUV LV HVMQVØ IRU HIFWYH
LQMMVHQMRQ

6 XEMFW RYHUVHVZ WSH

\$ QDØV RI VHV ØNHØKRRG RI HJ SHUHØFLOJ RU ZLVØVMLQ
YLRØQFH LQ FKØKRRG RQ VHV ØNHØKRRG RI GHYØSLQJ

SHURQDDW GVRUGHU LQ ØMMØQH DQG RMMHUI DFRUV ØDØQJ VR
SHURQDDW GVRUGHU

7KH VAVØH IURP FKØKRRG VR DØXØMRG LV P DUNGEA D
VHVHV RI HJ SHUHØFH VMDVWØSH DQ LQGYLXØDY LG-QMMV
EHØYRUV DQG SV FKRØJLFDØ ZHØEHØJ & KØUHQ LQ
SRYHV DUV P RUH ØNHØ VR HJ SHUHØFH P DØVDM HQVGH VR
VHV FØRQF VHVH RI I LQØFDØKØGKLS DQG VHVLUH LG-ØFH LQ
GVDYDØØJHG FRP P XQVAV 7KHV FRP P XQVAV RVMØ KDYH
KJK UDM RI XQ-P SØ P HQV ØZ FRKHMRQ DQG VRFDØ
GVRFRQFVAVRQ LQFUDLQJ VHV UAN RI YLRØQFH IRU VHVH
FKØUHQ 7R DØGUV VMLV LVXHV VPH HJ SHUV VAVJHVMQZ
FRP P XQV ØVHØ SUHYHQMRQ DQG VSSRUV RØY VR KHS
YØHØDØH IDP LØHV DFFHV DMMVØFH EH RVH RVH DQG
YLRØQFH EHFRP H LP P LQØV > @ \$ P RQ VHVH IRUP DMVH
HJ SHUHØFH VHV LP SDFVRI HJ SRXUH VR RU ZLVØVMLQJ
YLRØQFH GVLQJ FKØKRRG KØV JØØHVG VJQILFDQVMMVAVRQ
IURP UHVØRKHUV DQG P HQØKHØØK SURHVMRQDY DØNH 7KLV
HJ SØUDNRQ G-ØYH LQR VHV LQWIFDM UHØNRQKLS EHØZHQ VHV
ØNHØKRRG RI HJ SHUHØFLOJ RU ZLVØVMLQJ YLRØQFH LQ
FKØKRRG DQG VHV VØVHTXØVGHYØSP HQVRI SHURQDDW
GVRUGHU/LQØMMØQH \$ VHV DVMRVU/HP EDUN RQVMLV VAVØH
VHV VAVG ZLØDØR XQDYHØRMMH FRQVEXMØJ IDFARUV VMDV
FRQVHVH VR VØSH VHV DØG VØSH RI SHURQDDW GVRUGHU/
VHØGLOJ ØJKVAVRQ VHV P XQVDFHNG ØMMHRI VHVURUV LQ/DQG
IP SØFDMRQ/ IRU P HQØKHØØK 7KURJK D FRP SUKH-QLYH
DØDØV VMLV DUNFØ DP VR JØQ D GHSUXQGHUVWØGLOJ RI
VHV LQMMØØ EHØZHQ FKØKRRG DGYHVAV DQG VHV
HP HVHV RI SHURQDDW GVRUGHU ZKØH ØØR FRQVØHØQJ
VHV ØURØHUI WØFZ RVN RI LQ ØHØFH VMDVFRQVEXM VR VHVH
FRP SØJ FRQØVAVRQ

) RUJLQJ IXVXUHV VHXIP SDFVRI FKLOKRRG
HJ SRVXUHV ' 9 RQ EHKDYIRU

&KLOUHQ HJ SRVHG VR ' 9 LQ VHLU IRUP DXYH \ HDV IDFH D
GLVXVHLQJ DOG FRP SOJ F FOI RI FRQHTXHQFH VDVVFDQ
HJ WCG Z HDLQAR DGXOMRRG 7KH VHXG IRXGG D VJQILFDQV
OQN EHZH HQ WHDV HQVDOG G-SUHMIRQ LQ IHP DQV Z KLOH
FKLOKRRG HP RMRQDOEXVH Z DV VHX SUJ DV ULN IDFVRI RU
UHTXVHG-SUHMIRQLQ P DQV \$ FFXP XOMQJ DGYHUHFKLOKRRG
HJ SHUHQH V HSHFDQ HP RMRQDOEXVH ULVHG VHX ULN RI
G-SUHMIRQ Z LK HP RMRQDO DEXVH FRP ELCHG Z LK RMXU
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G-SUHMIRQ V P SWP V 3DUVLSQV RI WQ UHSRUG P XOSQ
DGYHUHFKLOKRRG HJ SHUHQH V LQGLDQJ D KJK GHUJH RI
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DOG HP RMRQDOEXVH Z DV IRXGG VR KDYH D P RUH VJQILFDQV
IP SDFVRI G-SUHMIRQ WQ SK VFD RU VJ XDO DEXVH LQ
FKLOKRRG > @7KH VHXFKLOUHQ DUHP RUHQND VR UHSDFM VHX
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: LQVHLQJ VXF DJUHMIRQ DOG KRMMQV EHZH HQ FDUJLYHV
FDQ CRUP DQV VHX EHKDYIRXV IRU VHX GLVXVHLQ VHLU
XCG VHDGLOJ RI KDOM LQMDVNRQ 7KH HP RMRQDO DOG
SV FRORJLFDQV DV QIWE VXF HJ SRVXUHV FDQ P DQI HVLQ
GLIHUHQZ DV Z LK VPH LQGLYGDQV LQMDQDQJ VHLU
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EHKDYIRXU

\$ V VHXFKLOUHQ JURZ LQAR DGRQVHQFH DOG DGXOMRRG
VHX CRUP DQV DNRQ RI YRQCFH FRP ELCHG Z LK VHX HP RMRQDO
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P DQJHU HQV FRQDFWUHQVNRQ DOG HP SDM GXH VR VHX
QI WAG P RGHV RI FRQWVXVYH FRP P XQFDNRQ VHX KDYH
HJ SHUHQH \$ V D UHXOV VHX P D UHURVV DEXVYH
EHKDYIRXU DV D P LVXLG GFRSLQ P HFKDQV SHSHVMDQJ
VHX FOI RI YRQCFH VR Z KFK VHX Z HUHQFH VHXVFWG

%UHQDQJ WLV F FOI UHTXUHV WUJHMG LQMDYHQNRQ DOG
VXSRUW 3URYGLQJ FKLOUHQ Z KR KDYH Z LQVHXG RU
HJ SHUHQH ' 9 Z LK VHXUHS FRXQHQDQJ DOG V D HVSDH VHX
HJ SUHV VHLU IHTQJ V FDQ KHS VHX GHYHGS KDOMLHU
FRSLQ P HFKDQV V DQGLQMDSHURQDQV (GXFDQJ VHX
DERXV KDOM UHQDNRQ KLSV DOG CRQ YRQCFH FRQDFW
UHQVNRQ VMDUHV FDQ UHXKSH VHLU SHUHSNRQ RI
LQMDVNRQ , Q DOG VNRQ ULVQJ DZ DUHQW RI VHX DQDQJ
HIHFVRI FKLOKRRG HJ SRVXUHV ' 9 LV HXHQV DQI RUSDUHQ
HGFDQV DOG VRFHW DQDQJH VR Z RUN VHXVHX VHX SUHYHQV
VHXWQDQV LVNRQ RI DEXVHIURP RQHJHQDNRQ VHXHQJ W

([SRUHQJ VHX VSHFWXP XQDYHQDQJ VHX
IDFVRIU FRQIEXM VHX VR ' 9 DOG DQV/RFLDO
SHURQDQV WDLV

%H RCG VHX VJQILFDQV P SDFVRI FKLOKRRG HJ SRVXUHV ' 9
RQ VHX GHYHOSP HQVRI DQV/RFLDOSHURQDQV WDLV DOG VHX
SHSHVMDNRQ RI DEXVYH EHKDYIRU LV LV FUXDQ VR
DFNRQ QGJH VHX LQMDVNRQ VHX VHX RI DOG VNRQDQV DQV/RFLDO
FRQIEXM VHX VHX GLVXVHLQ VHX FRP HV 7KH HP HJHQFH RI
' 9 DOG DQV/RFLDOSHURQDQV WDLV VHXVHX VHX UHXOV RI D
VQJHQFDXVH UHXVH LV V DFRQYHUHQFH RI GLYHUHLQ QXCFH
VHX FRQDFWYH VDSH DQ LQGLYGDQV EHKDYIRU DOG
WQGHQFH

(QYURCP HQMD , QXCFH 6RFLHFRQRP LF FRQVNRQ
GHJKERUKRRG YRQCFH DOG RYHUHQHQYURCP HQMDVHXVRIU
SD D SLYRQDURQ LQ VDSLQJ DQ LQGLYGDQV Z RCG YHZ
* URZ LQJ XS LQ DQHQYURCP HQV P DUNGE LQMDQV RUP H
DOG DQFN RI UHXVUHV FDQ FRQIEXM VHX VHX GHYHOSP HQVRI
DJUHMIRQ DOG DQV/RFLDO EHKDYIRU DV LQGLYGDQV DGRSW
VMDUHV VHXVHX DOG DQV DQV DQV DQV DQV DQV DQV DQV DQV
) DP LQ ' \ QP LV 7KH I DP LQ VHXV DV VHX SUJ DV
IRXGGNRQ IRU VRFDO DOG HP RMRQDO GHYHOSP HQVRI
' \ V XCFVNRQDQV DP LQ VHXVUHV LQGHXDM SDUHQDQJ DFN
RI SRVXVH URQ P RGHV DOG LQFRQVMDQV GLVLSQGH FDQ
FRQIEXM VHX VHX SHSHVMDNRQ RI DJUHMIRQ DOG DQV/RFLDO
WQGHQFH \$ GELNRQDQJ HJ SRVXUHV VR SDUHQDQV VHXVHX
DEXVH DOG QJHQVFDQ LQFUDVH VHX ULN RI GHYHOSP LQ VXF
WDLV

* HQVNF DOG %RORJLFDQ DQVRI (P HJLQJ UHFDFK
VXJHWV DQJHQV SUHGLSRVNRQ VHX VHXVHX SHURQDQV WDLV
LQFOXGLQ DQV/RFLDO WQGHQFH 1 HURELORJLFDQ I DQVRI
VXF DV EUDQ VHXVHX DOG QXURQDQV P VHXVHX VXFNRQJ FDQ
DQV LQ QXCFH DQ LQGLYGDQV QHQKRRG RI HQDQJ LQ
DJUHMIRQ DOG DQV/RFLDO EHKDYIRU

3V FRORJLFDQ DQVRI & HVLQ SHURQDQV WDLV VXF DV
IP SXOLYUW QZ HP SDM DOG VHXVNRQ VHXVHX KDYH EHQ
QNG VR D KJKHU ULN RI DQV/RFLDO EHKDYIRU DOG ' 9
, QGLYGDQV Z KR HJ KLELVMDV DWRFLDQZ LK SV FRSDM
FKDQV HJ HG EA D DFN RI UH RUH DOG HP SDM DJH
SDVFXDQ SURCH VR HQDQJ LQ KDUP IXO DQVRI Z LMRXV
IHTQJ JXLOV

6XEMDQ \$ EXVH6XEMDQ DEXVH DOG DOG VNRQ FDQ
HJ DQV DQV VHX SURSHUW IRU DJUHMIRQ DOG DQV/RFLDO
EHKDYIRU ' UJ V DOG DQV RQ FDQ IP SDU VHXVHX HQV QZ HU
LQKLEVNRQ DOG LQMDQV HP RMRQV FRQIEXM VHX VHXVHX
RHXUW DOG IP SXOLYH DQVRI

3HU , QXCFH \$ VRFDNRQ Z LK GHQTXHQVSHU RU
LQGLYGDQV Z KR FRQGRQH RUHQDQJ LQ YRQCFH EHKDYIRU FDQ
CRUP DQJ H DJUHMIRQ DOG DQV/RFLDO FRQVFXVHQDQJ VR VHX
DGRSWRI V P LQVHX EHKDYIRU EA IP SUHMIRQ DQV LQGLYGDQV
VHXVHX DFFSHVHQFH

& XOMDQ DOG 6RFLHMDQ DQVRI & XOMDQ CRUP V P HED
SRUVDQV DOG VRFHMDQ DQV VHXVHX VRZ DQV YRQCFH FDQ
LQ QXCFH DQ LQGLYGDQV SHUHSNRQ RI DFFSHVHQH EHKDYIRU
6RFLHMDQ VDVVFRQGRQH RU JOP RUJH DJUHMIRQ P LK V
LQGYHUHQDQV IRVHU DQ HQYURCP HQV FRQVFXVYH VR VHX
HP HJHQFH RI ' 9 DOG DQV/RFLDOSHURQDQV WDLV

\$ V VHX SUH VHXVHX DQV DQV VHXVHX FRP SOJ DOG VDSH RI
XCG VHDGLOJ ' 9 DOG DQV/RFLDO SHURQDQV WDLV LV LV
FUXDQV DGRSWD KROMF SHUHSVYH VMDUHFV VHX VHX
LQMDQV RI VHXVHX XOSQ LQ QXCFH % DOG VHLQ VHXVHX
I DQVRI FRP SUH VHXVHX VHXVHX VHXVHX LQMDYHQNRQ DOG
V VHX LF FQDQJ LQGLYGDQV FDQ WLYH VR FUDM D VRFHW
VHXVHX RMX KDOM UHQDNRQ KLSV HP SDM DOG SRVXVH
EHKDYIRU Z KLOH DQVYH GLP DQVRI VHX VHXVHX VDVV
SHSHVMDQ YRQCFH DOG KDUP IXO WQGHQFH

([SRVHQJ VHX KLGGHQ Z RXQGV HJ SRUHQJ
VHX SURIRXQG HP RMRQDO IP SDFV RI
FKLOKRRG WDXP D IURP ' 9

7KH UHYHUHQDNRQ RI ' 9 HJ WCG IDU EH RCG VHX SK VFDQ
UHQDQV DQV DQV VQGRZ RQ VHX HP RMRQDOZ HDQHQ RI
VHX RXQJ Z LQVHXV DOG YLW V VHXFKLOUHQFDXJKVQV VHX

PLGGDI RI VFK VUPL RLO 7KH HP RWRDOLP SDFWRI FKLOKRRG
WDXP D UH/XQWJ IURP ' 9 LV FRP SOI DQG SURIRXCG Z LWK
IDUJHDFKIQ FRQHTXQFHV IRU VHLU SX FKROJLFDD
GMYDS P HQWUHQDQKLSV DGGRYHUOXTXOOW RI QH
3X FKROJLFDD GLVWLV & KLOUHQ H SRVHG VR ' 9 R WQ
H SHUHCFH D UOJH RI LQMDX SX FKROJLFDD GLVWLV) HDU
DQ LHV DQG KI SHUJLIDQFH FRP H FRQMDV FRP SDQRCV DV
VHX SUJGLFV DOW RI ' 9 GLVXSW VHLUVQFH RI V H W DQG
VFXUW 7 KH FRQMDV WQVFRQDQG DGG VR VOHS GLVWUDDFHV
QJKW DUH DQG D KHJKWCHG WDM RI DDUKHW WDVASHUWLV
HYHQ D VUW VHLV WUHDWLV VEVG HG : LWK FKLOUHQ OYLQ IQ
SRYHUW EHQ DND KJKUULUN RI DEXV WQD WRVH QRWYLOJ
LQSRUHV & KLOUHQ IURP YHU OZ LQFRP H DQG OZ LQFRP H
IDP LQH DOR WCG VR OYH IQ QJJKFRXJKRRG V LWK KJK
XQP SQA P HQV DQG UHMG QNDOP RELOV OZ FRK WLRQ DQG
VRFDD GLVFRQGFWRQ Z KLFK FDQ DOR LQFUH D VHL UN RI
YLRQFH> @

(P RWRDOLP G VUHXDNRQ 7KH CRUP DOWDNRQ RI
DIJUH WLRQ DQG KRWDV LQ VHLU L P HG DMHQWURQP HQVFDQ
VDSH KRZ FKLOUHQ SHUFYH DQG H SUHV HP RWRQ 7KH
P D WVKJGH Z LWK HP RWRDOLP UHXDNRQ H SHUHCFH VHYUH
P RRG VZ LQV DQG I LCG LWGLIFXOWR SURFW VHLU IHQQV
DSSURSUDMD 7 KLV HP RWRDOLP RLOFDQ D IHFWHLU DOW
VR IRUP KHDM UHQDNRQ KLSV DQG P DODJH FRQDFVWQ VHL
IXMUH & KLOKRRG YLRQFH DQG DEXV FDQ DGG VR VHYUH
SHURQDOW DQG P HQV DGGV RUGLV LQ DGGXMRG , VFDQ FDXH
DQ LQHURUV FRP SOI OQOCHW GOWRQV DQG
DIJUH WLRQ ERV GLUFWG DWRQH D DQG RMHV 7 KH V
WDXP DNF FRQHTXQFH VMP P IQ IURP SKI VFDD V H XDRU
HP RWRDOLP DEXV GUKIQ FKLOKRRG R WQ UH/XQWLQ OQ
QMDQ LXXV VFK DV D IHFWYH GVRUGV 376' DGGFVYH
EHKDYRU DQG HDWQ GVRUGV , Q V H 8 QVNG 6 D W W & K O
3URWVYH H6HULFH V 36 LQYVM D W RYHU P LORQU SRUW
RI VXSFWG FKLG DEXV HFK \ HDU Z LWK SHUFQHWDNG
VR SKI VFDD EXH> @

/ RZ VQD H W M P & KLOUHQ Z KR Z LWQHW RU H SHUHCFH
' 9 R WQ LQMDX HQDHEOP HDGGXLOW ECHYLQ WQVHLU DUH
VRP HRZ UH SRQLEOH IRUI DP IQ G VFRUG 7 KL G V W U N G V D
IP DJH FDQ XCG HP LQ VHLU V D H W M P DQG DGG VR IHQQV
RI Z RUKOMGHW DQG LCGHTXFA ' LWXSWG D W K P HQV \$
KHDM D W K P HQWR FDUJLYHV LV H W HQ MDI R U D FKLOV
HP RWRDOLP GMYDS P HQV + RZ HYHU VHLV FKORV RI ' 9 FDQ
GLVXSW VHLV ERQV O D Y L Q FKLOUHQ V R L Q E H Z H Q V H N L Q
V H W D G V H N L Q D I H W R Q I U R P V H Y H U S H R S O H Z K R P D
KDYH K D U P H G W M P 7 K L V F D Q F R Q M E X M V R G L I F X O W V L Q
I R U P L Q V F X U H U H D M R Q K L S V Q M U L Q Q H , Q V H U H W U F K
G E D \ H W M H P R W Y I R Q V D G D Q W F R L D O D E X H U V D O R
N C R Z Q D V 7 \ S H D E X H U V D U H Q N D V R E H V X I H U L Q I U R P
D O F R Q D D G G U J S U R E O P V D G ' 9 J H W P H Q F R Q X P L Q
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Y L R Q F H V R Z K L F K V H K D Y H E H Q H S R V H G : L W R X W
L Q M Y H Q R Q V H P D U S H D W M H S D W L Q V R I D E X V I Q W H U
R Z Q U H D M R Q K L S V G U Y H Q E V H P L W D N H Q E H Q H W D W W F K
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7 U X P D U H F W R Q V 7 K H W D X P D N F H J S H U H C F H V R I
Z L Q W L Q R U H J S H U H C F L Q Y L R Q F H F D Q W I J U H S U R I R X C G
W D X P D U H S R Q V V F K D V I O K E F W D Y R L G O F H D G G
K I S H U R X V D 7 K H V U H S R Q V F D Q S H U W M Q V R D G X O M R R G
D G G D I H W H U D E L O W V R I X C F W R Q H I H F W Y H O D D G H Q D J H L Q
G E D Q H > @

/ R Q V W U P P H Q M O K H D O M F R Q H T X Q F H V 7 K H H P R W R D O
I P S D F W R I F K L O K R R G W D X P D I U R P ' 9 F D Q K D Y H Q M W Q
H I H W R Q P H Q M O K H D O M 6 W A G L V K D Y H V R Z Q D Q L C F U H V H G
U N R I G H Y O S L Q F R Q G W R Q V F K D V G S U H W L R Q D Q L H V
D G G H Y H Q S R W W D X P D N F W A H V G V R L G H U 376' L Q D G X O M R R G
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5 H F R J Q W L Q V H F R P S O I H P R W R D O F R Q H T X Q F H V R I
F K L O K R R G ' 9 W D X P D I V H W Q M D O , Q M Y H Q M R Q D G G V X S S R U W
W M U R X J K W F U D S D G F R X Q H Q Q J F D Q S U R Y L G H F K L O U H Q Z L W K
V H V A R O V R S U R F W V W H U H J S H U H C F H V G H Y O S K H D O M
F R S L Q P H F K D Q V P V D G F X O M D M U H O C F H % D G G U H W L Q
W H I P R W R D O Z R X C G / L Q D F M G E ' 9 V R F L W F D Q I R W M U D Q
H Q W U R Q P H Q V Z K H U H F K L O U H Q K D Y H W H R S S R U W Q W V R K H D O
W A U Y H D G E U H N I U H I U R P V H F F O H R I Y L R Q F H W D W
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6 X P P D U H V (I S O B I Q V H I L Q M F D M Q N V E H Z H Q F K L O K R R G
H J S R X U H V R ' 9 W H H U H Q F H R I D Q W F R L D O S H U R C D O W
W D W D G W H S U R I R X C G H P R W R D O L P S D F W R I W D X P D D W D U N
U H D M D N R Q H P H J H V W H F F O H R I Y L R Q F H G L V W H V D G G
G V X C F W R Q K D V I D U J H D F K I Q L Q M U H C H U D N R C O
F R Q H T X Q F H V & K L O U H Q Z K R Z L W Q H W ' 9 D U H G R W P H U H
E W D Q G H V W H D U H G H S O D I H F W G L Q G Y L G O O Y Z K R F D U V
W H Z H J K V R I W H U H J S H U H C F H V L Q R D G X O M R R G

) U R P W H S H S H M D M R Q R I Y L R Q V E H K D Y R X U S D W L Q V R I
G V W U N G X C G L W D Q G Q V R I K H D O M U H D M R Q K L S V W H H I H F W
D U H S U R I R X C G \$ P L Q W M L V R E H U I Q U H D W K R Z H Y H U Q H V D
J O P P H U R K R S H W H S R M Q W D O R U L Q M Y H Q M R Q D G G F K D Q J H
7 K H Q U D D Y H V R I 3 W 3 W D G 3 W F R O F W Y H O X G H U O C H W H
Y L W O P S R U D O F H R I D G G U H W L Q V H W L W X H V F R P S U H K Q L Y H O
W M U R X J K W U J H W G V X S S R U W G F D M R Q D G G V W A P I F F K D Q J H

\$ V S H R S O H F R O F W Y H O W A Y H I R U D V R F L W E X L O V R Q
H P S D M U S H F W D D G K H D O M L Q M F W R Q / D F N C R Z O G I L Q
W H P X O V D F W G Q M U H R I W H H F K D O Q H V L V S U D P R X Q V %
E U H N L Q W H L O C F H F U H D Q V D I H V S D F V D G I R W M U I Q
U H O C F H S H R S O H F D Q H P S R Z H U E R M F X U H Q V D Q G I X M U H
J H Q H U M R Q / V R R Y H U F R P H V H S D Q X O G U D F L V R I W H U S D W
7 K L V U H X U H V W H F R O D E R U D N R Q R I L Q G Y L G O O Y I D P L Q H V
F R P P X Q W H V D G G L Q W M M R Q / D O X Q L N G L Q W H U F R P P L W H Q V
V R E U H N L Q F F O V R I Y L R Q F H D G I R W M U I Q H Q W U R Q P H Q V
F R Q G F L Y H V R K H D Q J J U R Z W D G G W H I P H U H Q F H R I K H D O M L U
I X M U H

' L V F X W L R Q 7 K H I Q M L S O D R I F K L O K R R G H J S R X U H V R ' 9
W H H P H U H Q F H R I D Q W F R L D O S H U R C D O W W D W D G W H
H P R W R D O F R Q H T X Q F H V R I W D X P D L Q Y R O H V D Z H E R I
F R P S O I I D F R U V W D V Q M W V Z L C H L Q L Q M F D M Z D V , W V F O D U
W D W W H H S K H Q R P H Q D D U H G R V L R O D N G R F F X U H Q F H V E X V
U D M H U G H S O L Q M F R Q G F M G S U R F W H V W D W V D S H W H
W D M F R U U H V R I L Q G Y L G O O Y Q Y H

7 K H G L V F X W L R Q / L Q 3 W 3 W D G 3 W K L J K O J K W W H
G Y H U W R I W H H L Q O X C F H V U D Q L Q I U R P H D O
G H Y O S P H Q D D H J S H U H C F H V R J H Q W F S U H G L S R W L R Q /
H Q W U R Q P H Q D O W H V R L V D G G F X O M D O Q R U P V 5 H F R J Q W R Q R I
W A V P X O M D F W G Q M U H X C G U F R U H V W H Q T H G I R U D
F R P S U H K Q L Y H D S S U R F K W D V D G G U H W H V G L I H U H Q V L P H Q M R Q /
R I W H H L X X H V

7 R K D Y H D P H Q D Q J I X O I P S D F W V R F L W P X W M L Q Y H W M L Q
S U H Y H Q M R Q H D O L Q M Y H Q M R Q D G G H G F D M R Q L Q W D D Y H V W D W
F K D O Q J H H Q M F K H G G R U P V D G G S U R Y L G H S D M Z D V V R

KHDOQJ 7KH ILQGLQJV RI WMLV UHFDUJK SDYH WNH ZD IRU
FUMFDQGLDURXH UHFDUJK DOG SUDFWDQHI RUWVR EUHFN WNH
F FQI RI YLRQCFH SURP RIM P HQMDZ HODEHQJ DOG FUDAM
HQYLRQP HQV Z KHUH LQGLYGDQY FDQ WMLYH Z LMRXW WNH
VKGRZ RI WMLWMDX P DNF SDWV

,QMLJ KW TURP WNH WNG

7KH FRP SUKH-QLYH WNG RI FKLOKRRGH SRXUHVRI ' 9 WNH
GHYHOSP HQV RI DQWRFLDO SHURQDDW WDLW DOG WNH
HP RMRQD D WLP DAK RI WDXP D UHYDOY SURIRXGG LQMLJKW
Z LAK LP SDFMRQ/IRULQGLYGDQY IDP LQHV SURI HMRQDQY DOG
VRFHWV DZ KRQ @

) LVMWV/FQDMD WNH HIFWR ' 9 DUHZ LGHSUHDG DOG
P XQVDFHNG : LQMLQ DJUHWLRQ EHZHQ FDUJLYHV/
VKSH/FKLOHQV SHU-SMRQ/RI UDMRQKLSV DOG GRUP DDAHV
KDUPIXOEHKDYLRXU 7KH F FQI RI YLRQCFH LV SHSHADMG DV
WNLH LQGLYGDQY WAKJQI VR EUHFN IUH TURP WNH SDMLQV
WNLH KDYH LQMLQDDMG KJKQKMQ WNH QHG IRU WDJHNG
LQMLYHQNRQ DOG VSSRUW

6HFRGG WNH LQMLSD RI IDFALV FROMLXWQJ VR WNH
HP HUHCFH RI ' 9 DOG DQWRFLDO WDLW LV FRP SQJ 7KH
FRQYHUJHQH RI JHQHW SXFKRULFDO VRFHW DOG
HQYLRQP HQMD LQXHQFH VKSHV DQ LQGLYGDQY
SUGLVSRLWRQ VR DJUHWLRQ DOG KDUPIXOEHKDYLRXU
8 QGLWDOGLQ WNLH FRP SQJ G QDP LFV LV HWHQND IRU
GHYHOSLQ KROMF DSSURDFKH VR SUHYHQNRQ DOG
LQMLYHQNRQ > @

) XUMHUP RUH WNH HP RMRQDLP SDFARI FKLOKRRG WDXP D
UHXQWQJ TURP ' 9 LV DSRJQDQWHP LQGUHRI WNH QMDQJ VDUV
QIWE WNLH HJ SHUHCFH 7KH SURIRXGG SXFKRULFDO
GLXWV HP RMRQDQ VUHJXQNRQ QNH G-SUHWLRQ DOG QOJ
WLP P HQMDK-DOK FROHTXHQFH KJKQKMMH XUHQA RI
SURYLGQJ WDJHNG VSSRUW DOG UHXRUFH VR FKLOHQJ Z KR
KDYH HJ SHUHCFH G VFK WDXP D > @

7KH FROFMYH ILQGLQJV XCGUFRUH WNH LP SRUHQFH RI
HGFDNRQ DOG DZ DUHQW LQ EUHFNQJ WNLH F FQV %
SURP RMDQ KH-DOK FRP P XQFDMRQ HP SDMA DOG FRQDFW
UHRQMRQ WLDV VRFHW FDQ HTXS LQGLYGDQY VR P DQDJH
UHMNRQKLSV Z LMRXW UHRUWQJ VR YLRQCFH (DUO
LQMLYHQNRQ/ VFK DV WNLH DQ DOG FRXQHQQJ FDQ SURP RIM
KHDOQJ DOG LQMLXSV WNLH WMDQ P LVLRQ RI WDXP D

,Q DGGWRQ WNLH ILQGLQJV FQDRIUD V WMP LF VKLWQ
VRFHWDDMMXGHV 7KH QRP DQMDNRQ RI YLRQCFH DOG KDUPIXO
EHKDYLRXU/ P XWV EH FKQDQJHG DOG UHQDFG Z LAK DQ
HQYLRQP HQV WMDV SURP RIM/ UHSHFW HP RMRQDQZ HODEHQJ
DOG WNH HP SRZHUHQVRI LQGLYGDQY VR RYHURP H WNLH
WDXP DNF SDWV

8 QP DAD WMLV WNG XCGUFRUH WMDV WNH SDMA VR
FKDQJH EHLQV Z LAK DFNQRZ QGILQJ WNH SURIRXGG
FRQHFWRQV EHZHQ FKLOKRRG HJ SHUHCFH EHKDYLRXU
GHYHOSP HQV DOG HP RMRQDQ Z HODEHQJ % Z RUNQJ
VRJHWU VR EUHFN WNH F FQI RI YLRQCFH VSSRUW WNLH
DIHFANG DOG UHKDSH VRFHWDDQRP V SHRSQ KDYH WNH SRZHU
VR FUDAM DIXUJRI KH-DOK HUHDMRQKLSV JUHDMLP SDMA
DOG WDXP SKRYH WNLH DGHU WNLH/RI WNLH SDWV

5 HFRP P HQGDMRQV VR UHGXFH WNH LP SDFW
RI ' 9

\$ GGUHWLQJ WNH FRP SQJ DOG IDUHFQLOJ HIFHW RI ' 9
UHTXUH/D FRQFHUANGH IRU WDWJURXV QMYO/RI VRFHW) LVMW
FRP SUKH-QLYH HGFDNRQ SURJUDP P H/P XWVHLP SQP HQMG
LQ VFRROY FRP P XQWV DOG IDP LQHV VR UDLV DZ DUHQW
DERXW KH-DOK UHMNRQKLSV/ FRQDFW UHRQMRQ DOG WNH
FRQHTXHQFH RI YLRQCFH (DUO LQMLYHQNRQ WADMLHV
VFRXG SURJWVH WNH SURYLWRQ RI VDH VDFH/IRU FKLOHQJ
HJ SRVHG VR ' 9 DV Z HODV WNLH DQ DOG FRXQHQQJ VR KHS
WHP SURFW WNLH HJ SHUHCFH DOG GHYHOS UHLOHQFH / DZ
HQRUHP HQV DOG VRFDO VUJLHV VFRXG Z RUN VRJHWU VR
HQYHU D VZ LV DOG HIFHWYH UHSHRQH VR LQFLGQV RI ' 9
SURMFWQJ YLWV V DOG KRQLOJ SHSHADMLV DFRXQDQJ \$ W
D V WMP LF QMYO SURP RMDQ HFRQRP LF DSSRUWQMLV DOG
DFHW VR P HQMD KH-DOK VUJLHV IRU ERV YLWV V DOG
SHSHADMLV LV FUMFDQV DGGUHWLQJ WNH XCGH LQJ IDFALV
WMDV SHSHADMLV YLRQCFH , Q DGGWRQ VRFHW P XWVFKDQJH
FXQMD QRP V WMDVFRQGRH RU JQMLV DJUHWLRQ DOG
UHKDSH DMMXGHV VR SURP RIM HP SDMA UHSHFW DOG GRQ
YLRQCFH % DFWYHO GLP DQWQJ WNH F FQI RI YLRQCFH
WURXJK FRP SUKH-QLYH SRFLH LQGLYGDQY FDQ FUDAM DQ
HQYLRQP HQV Z KHUH LQGLYGDQY FDQ KHDO WMLYH DOG UH WML
WNLH QDUJLHV IUH TURP WNLH FKLOQV RI ' 9 > @

,Q WNH UHQD RI DGHUJ FKLOKRRG HJ SHUHCFH \$ &
WNLH LV KRSH IRU DQXOV VR P LMDM WNLH HIFHW WURXJK
UHLOHQFH EXLOQJ P HMRG/ QNH P HQMDNRQ DOG HP RMRQD
IRFXLQJ WNLH DZ KLFK KDYH SURYHQ HILFA \$ EXVHG
FKLOHQJ P D WAKJQI Z LAK LQMLSHURQDDUHMNRQKLSV GHWVR
WNLH WDXP DNF SDWV HP SKDQJ LQ WNH LP SRUHQFH RI
UHMNRQD LQMLYHQNRQ/ & KLG 3DUHQV V FRMNLH D & 33
RI HLV D VSSRUWYH HQYLRQP HQV VR HQKQFH FKLOHQJ V HDU
GHYHOSP HQV DGGUHWLQJ HP RMRQDQHQV DOG IRWMLQJ
DMMKP HQV VFXWV + RZ HYU SDUHQD DMMXGHV VRZ DUG
VFK LQMLYHQNRQ/ FDQ EH SDWYH 8 Q RUMQMD WNLHV QR
XQYHUDDOVRQNRQ IRU \$ & (DIHFANG FKLOHQJ DOG DFHW VR
WNLH HQV UH DQV QP LAG 2 Q D EURDGH VDDH 6 WRP V
V WMP LF DSSURDFKH DGRFDM IRU LQMLUDMG FRRQDNRQ
HDU LQMLYHQNRQ/ LQFUDMG WDJHNG VUJLHV DOG
SURIHMRQDQGHYHOSP HQV RU FKLG SURMFWQJ FDMZ RUNHV
DQCFH WMLQJ I XUMHUSVFDQJ HG UHFDUJK DOG WDLQJ VR
P H WNLH XQTXH QHG/RI FKLOHQJ DOG IDP LQHV HIFHWYH
> @

2 Q WNH RMLU KDOG SHRSQ FDQ HIFHWYH UHGXFH WNH
LP SDFWRI ' 9 WURXJK QUDO P HXUHV FRP SUKH-QLYH
QULVDMRQ VFRXG EH GHYHOSG WMDV FQDQ GHILQV ' 9 DOG
FRYHV D Z LGH UQJH RI DEXLYH EHKDYLRXU Z LAK D
FRP P LWF HQV VR P DQGDALV UHSHRQJ E KH-DOK FDUH
SURYLGHV WDFKHV DOG RMLU SURIHMRQDQ DOG WNRQJU
SURMFWQJ RUGLV WMDV WJH DULHV REVWQ DOG HQRUHP 7KHUH
VFRXG DOR EH WNLFWXQ FROQROP HDXUH VSHFDQMG ' 9
FRXUV Z LAK WDLQGH WML DOG DFHWLEQH QUDO DG DOG
VSSRUW VUJLHV IRU YLWV V / DZ HQRUHP HQV WDLQJ
YLWV VSSRUW HGFDNRQ DOG SUHYHQNRQ SURJUDP P HV
VFRXG EHLQMLUDMG Z LAK Z RUNDFH SURMFWQJ DOG KRXLQJ
DMLWDFH Z LAK DQ HP SKDLV RQ FXQMD FRP SHMCA DOG
EQQXDO VUJLHV 3URP RMDQ QMD FROFWRQ SXEF
DZ DUHQW FDP SOLQV WNRQ SHQDQV IRU SHSHADMLV DOG
FRP P XQW LQROYHP HQV Z KLOH UHJXQD UHSHRQ LQJ DOG
XSGDQJ SRFLH DUH HWHQND FRP SRQHQV RI D KROMF
DSSURFK , Q DGGWRQ LQMLQDQDQDFFRSHUDNRQ LV HWHQND
VR DGGUHV FURV ERLGHUFDVH DOG VR DMLV YLWV VZ KR KDYH
IQG WNLH KR P HFRXQMLV Z LMRXW WNLH

&RQFOXLRQ

7KH H SODUHQRI DQVRFLOSHURGDWV GLVRLGHU FKLOKRRG
H SRXUHV' 9 DQG VHLULQMFDMFRGHFWRQ/KDVUHYDQG
D VSHWV RI LQMFROGHFWG FKLOKRRGHV WDVGH P DQG XJHQV
DQVRFLO DQG KRDMF VROXWQV 7KHV ILQGLQV SURYLGH VHV
EDLV IRU DFRQDEOH UFRP P HQGDWVQV WDVFDQ FKLOKRRGHV
WDMFVWV RI LQGLYLGXDV QYHV DQG IRVWU KHDOMLU
FRP P XQWV

) LWV UFRJQLQJ VHV F FQDD QDMUH RI YLRQFH LV
SDUP RXQV3UHYHQWV WDMULHV P XWFP SKDULH HGFDWV
DQG DZ DUQHV SURJUDP HV WDMFKDGHQJH KUP IXOCRUP V
DQG WDFK LQGLYLGXDV IDPLQHV DQG FRP P XQWV VHV
LP SRUHQFH RI HP SDM FRP P XQFDWV DQG FRQDFW
UFRXWV (DQ LQMLYHQWV LQFOXGLQ VHV DQG
FRXQHQJ IRU FKLOHQJ H SRVHG VV YLRQFH FDQ P LWDM
QJ VUP HIFW DQG LQMLXSWVHV SHSHWVWV RI KUP IXO
EHKDIRXV

, Q VHFROV VRI DQVRFLOSHURGDWV GLVRLGHU DFXUDM
GDJCRV/DGGVQLGHV WDVW HQVWUHVHVWV DQ HQDOKDQ
SURHVLRODQ VHXG EH WDLGH VV UFRJQLV P DQ SXQWV
DQG FQDD DQWVWV HQV VHXG LQFOXGH D FRP SUHKLMLYH
KLVWV VV HQVUH DQ DFXUDM GDJCRV/ &RQWVHV
EHKDIRXUDVHV DQG RLVHUVVGHQFH EDVGH LQMLYHQWV
FDQ VUJHVXGHUHQJ SUREOP V DQG SURP RV KHDOMLU
EHKDIRXV/DGGUHQWVQV

, Q DGGVWV V VWP LF FKQJH LV QHG-G VV DGGUW VHV
IDFVWV WDVFRQVEXVWV' 9 DQG DQVRFLODFKQDFWVWV
6RFLRFRQV LF VSSRUVDFHVVV P HQDOKDQ VHVLFV/DQG
LP SURYHG IDPLQ WVKFVWV DUH HVHQWQ &RDERUDWV
EHVHQ QZ HQRUP P HQVRFLOVHVLFV/DQG FRP P XQW
RUVQVWV/DQ SURYLGH D VHV QVWVYVWV V DQG KRQ
SHSHWVWV/DFFRXQDEOH

, Q DGGVWV GLV DQVQJ FQWUD QRP V WDVWJQV
DUJUHVV DQG VHNQJ P HGD SRUW DQ WDV/SURP RV
SRVWVHV URQ P RGHV FDQ FKQJH VRFLO DQWVGHV 7KLV
UHTXWV DGYRFA P HGD FFP SDJQV DQG LQFOXVH
HGFDWV VV FVDM D FQWV WDVWYDQV UHVFWDQG GRQ
YLRQFH

, Q FRQFOXWV VHV VVXQJ IURP FKLOKRRG VV DQVWV
LV VDSHG E H SHUHQFHV DQG RXU UHSRQV VV WRVH
H SHUHQFHV FDQ UHVDSH RXUDV % EUFNQ VHV FQRI
YLRQFH VSSRUVQ VV VVZ KR KDYH EHQ WDXP DQVHG DQG
IRVVWQJ D VRFHV WDV/SURP RV HP SDM DQG KHQ
UHQWVQV SHSDHSDYHVHVZ D IRUDEHVWUHVXWV 7KHV
ILQGLQV DQG UFRP P HQGDWVQV LQVWV LQGLYLGXDV IDPLQHV
SURHVLRODQ DQG SRQ P DNVV VV Z RUV VVHV VV EUFN
VHV FKLOQV RI YLRQFH DQG Q VHV IRXQGDWV IRUKDQJ
JURV VV DQG SRVWVHFQJH

5 H HVHQFHV

7 , +HVQVWV /) HGD . \$ 5REHV . /
5DXHV5 ; +X \$ 1 5RXVWV : \$ 0 DVQ
7UDXP D 9 LRO \$ EXV ±
7 : RVVHVWV -) DP , VVHV ±
6 \$ 0 DNV DQG + \$ QVHQ \$ YQDEOH DV
KVVV ZZZ UHQDFRUV VV DQ KVV

(7 * RVQV - . * RQDQ DQ 1 6 -DFREVQ 3VFK
&Q1 RVW \$ P

(. DV &KQ \$ EXV5HV ±
. 0 <RXQV \$ 0 ' L* LURQPR 8 5 DP DNVKQDQ
6RF6FL 0 HG ±

. . QVWV DQ DQ 0 / . HQV , QV (QVU5HV DQ
3XEQ+HQV

. \$ %URVPHHV . \$) DQV & & +HVQK -
&QV &KQ \$ GRQV FQV

6 \$ 6VQDQ 0 \$ =LPHV DQ DQ - \$
%DVHVHV - 5HV \$ GRQV

' - 7HV DQ % * HQV < %HVQHV HVQ % &
3XEQ+HQV

- < &KQ \$ YQDEOH 2 QV DV
KVV ZZZ DQV/SUVVFRP SURVHQVLFHQ

& &DUHQDQ + +RVWV \$ P (FRQ - \$ SSO(FRQ

3 &KQZ LVN &KQV D 0 7VHV DQ 3 0 VVSR 2 SHQ
- 6RF6FL