$ 0XOWL 'LVFLSOLQDU\ $SSURDFK WR WKH)LE

/XLV 5RGULJR

8QLYHUVLW\ RI 2YLHGR 6SDLQ

&RUUHVSRQGLQJ DXWKRU &DPLOR 3URIHVVRU RI 0HGLFLQH &DPLOR &RUGHUR &DPLOR &RUGHUR]#JPDLO FRP

5HFHLYHG 6HSWHPEHU $FFHSWHG 6HSWHPEHU 3XEOLVKHG GDWH 6HSWHPEHU

&RS\ULJKW ‹ 5RGULJR / 7KLV LV DQ RSHQ DFFHVV DUWLFOH GLVWULEXWHG XQGHU WKH WHUPV RI W
GLVWULEXWLRQ DQG UHSURGXFWLRQ LQ DQ\ PHGLXP SURYLGHG WKH RULJLQDO DXWKRU DQG VRXUFH DU

(GLWRULDO

,W LV IRU PH D JUHDW SOHDVXUH WR
DQG IXWXUH FRQWULEXWRUV WR WKLV
f)LEURP\DOJLDg HGLWHG RQOLQH DQG

$OVR , ZDQW WR ZHOFRPH WR DOO W
VWXG\ DQG XQGHUVWDQGLQJ N0
WKHUDSHXWLF DSSURDFKHV

,W KDV EHHQ DVVHPEOHG DQ H[FHOO
RI D VHOHFWHG JURXS RI H[SHUW
FRXQWULHV ZKLFK ZLOO HYDOXDWH
ULJRU IROORZLQJ WKH SHHU UHYLHZ

H)LEURP\DOJLD V\QGURPH
5KHXPDWRORJ\ DQG WKH &KURQLF 3DLQ
GLVHDVH WKURXJKRXW WKH ZRUOG
FRQWLQXRXV RU UHODSVLQJ FOLQLFDO
SURSHU KDQGOLQJ RI WKH
RU E\ WKH FRXUVH RI WKH GLVHDVH
FRPSOLFDWLRQV ZKLFK UHSUHVHQW
YLVLWV SHUIRUPHG WR WKH KRVSLWDO
UHOLHYLQJ WKHLU SDLQ DQG DVVRFLDWHG

H PDLQ REMHFWLYHV RI WKLV QHZ
WKH NQRZOHGJH DQG H[SHULHQFH
FRPSOH[DQG GLVHDVH SUHVHQWLQJ
DQDO\VLV RI ZHOO GHVLJQHG VHULHV
DQG UHVHDUFKHUV WR SUHVHQW WKHLU
RQ WKH DVSHFWV RI WKLV LQWULJXLQJ GLVHDVH

)LEURP\DOJLD G\QGURPH
WKDW LV VRPHZKDW FRQWURYHUVLDO
SURFHVVLQJ UHVXOWLQJ LQ DXJPHQWDWLRQ RI SHULSKHUDO VWLPXOL HVSHFLD
WKH QRFLFHSWLYH W\SHV

H fFRUHg V\PSWRPV VHHQ LQ)0
VHQVLWL]DWLRQ GLVRUGHUV LQFOXGH WKH SUHVHQFH RI RI YDULHG FOLQLFD
SUHVHQWDWLRQ IRUPV VXFK DV PXOWLIRFDO SDLQ IDWLJXH LQVRPQLD
FRJQLWLYH PHPRU\ SUREOHPV DQG SV\FKRORJLFDO GLVWUHVV

+RZHYHU)0 SDWLHQWV PD\ H[SHULHQFH D PXOWLWXGH RI RWKHU
DVVRFLDWHG V\PSWRPV
RUDO RFXODU V\PSWRPV HJ NHUDWRFRQMXQFWLYLWLV VLFFD KHDGDFKHV
VH[XDO G\VIXQFWLRQ DQG LPSDLUHG SK\VLFDO IXQFWLRQ EHWZHHQ RWKHUV

3DWLHQWV FRPSODLQLQJ RI SDLQ RU IDWLJXH LQ WKH DEVHQFH RI NQRZQ
SK\VLFDO GLVHDVHV FRQVWLWXWH D KLJK SHUFHQWDJH RI WKRVH VHHNLQJ JHQ
PHGLFDO FDUH 'HSHQGLQJ XSRQ WKH W\SH RI SK\VLFDO VSHFLDOLVW
FRQVXOWHG WKRVH LQGLYLGXDOV PD\ UHFHLYH GLVHDVH ODEHOV WKDW UDQJH
DQ LPSOLHG SV\FKRORJLFDO RULJLQ VXFK DV VRPDWRIRUP RU SV\FKRVRPDWLF

GLVHDVH RU WR D SUHVXPHG
WKHVH FRQGLWLRQV KDYH FRPPRQ RYH
FRQVLVW RI ERWK IDWLJXH DQG SDLQ FR
SVVFKRORJLFDO VRFLDO DQG EHKDYLR
SURPLQHQW UROH VLS DWKRS DWKRS DQW
VHQVLWL]HG RU K\SHUDFWLYH FHQWUDO
LQFUHDVHG YRQXPH FRQWURO RU JDVQ RQ
FRQ@HU LQWQQDO @pWR EDQGL;QXQ@HU
RWKHU FRQGLWLRQV QRZ EHLQ VKRZQ
SDWKRSK\VLRORJ\ HJ LUULWDEOH ERZHO
FHOLDF JOXWHQ VHQVLWLW\ LQWHUVW
EHWZHHQ RWKHU GLVHDVHV RU DV D FR
GEVHDVHV FRUDFWHUL]HG E\ RQ DPLQWS
HJ DXWRLPPXQH GLVRUGHUV DQG RVWHR
WKH ODWWHU LQVWDQFH WKH WHUP
WKDW LQ DGGLWLRQ WR WKH SDLQ WKDW
WKHUH LV VXSHULPSRVHG SDLQ DXJPHQW
FRXUVH WKDW UHTXLUH UHXQDU FKHFN
QHUYRXV VYVWHP ,W LV LPSRUWDQW W
UHJDUGHLV RI ZKDW WHUP LV XVHG WR
FHWUDOLHG SDLQGR QRW UHSRQG HE
FRPPRQ UHDVRQ WKH UHTXHQW
ZHOO DQG SHUSKHUDO SDLQ XUJHU\ D
DQG DQVR WR PHGLFDO FRQXOWDWLRQ
UHVSRQG WR SHUWUDOO\ DFWLQJ DQDO
WKHUDSLHV

LV QHZ)LEURP\DOJLD -RXUQDO WKHU
FRPPLWPHQW WRVHHQ DFRQ DQG
VSHFLDOWLHV ORW RQO\ IURP 5KHXPD
UHODWHG WR WKH FDUH DQG FRQWLQXH
WKHUDSLHV

LV QHZ)LEURP\DOJLD -RXUQDO WKHU
FRPPLWPHQW WRVHHQ DFRQ DQG
VSHFLDOWLHV ORW RQO\ IURP 5KHXPD
UHODWHG WR WKH FDUH DQG FRQWLQXH
WKHUDSLHV

LV QHZ)LEURP\DOJLD -RXUQDO WKHU
FRPPLWPHQW WRVHHQ DFRQ DQG
VSHFLDOWLHV ORW RQO\ IURP 5KHXPD
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WKHUDSLHV