ot to pop t nsu trntv nor s roup ns H n propos u oup sto, st vout on f o or n v u s vour tr tor s t n n ross poss su roup or ton sso t t trntv so nor s nov t ot s o s n t t ns on r t t n t o op, t n t vov n so n tor n t poss t on t or n u nst t s t n t n v u s tv tor n tor vour st t n s In s ton ntrou t not on of tv tor n tors st t t o sts t n ot t ps oo n t t t trurs in s ton pr s n t o n n n ss o ts n s s o t t o n to o urn nst t pro ss qut o on n tv tor n tor s n t o o

vr to s p pssv—oup n t ntos n vu s st s u urn nst t s n tur r t unor s trrsutn no su s tsor tv nrs tvton n r tv n r s n ton so urs nt oup n t n n vu s—s stron rort n torvr st nort tvtorvr s u nst t s s ountrntutv t rst s, t s n n vu s r s n p r s n nt t or f p t, ssp ton uton o n tons o s tr s to vop us n p r s oup n of tvtor n torvr s s pot nt n s or r t n vr t ross populons

It s t us r son to postu t t t n t t t t

o ons rn vout on qu tongor At E, sssu to vov npn nt tou, son ton pn nt on t, urr nt nt or so son ton on rt urr nt su struturs , orr t ovrt ort, rt, n o gu pro t struton or gutur nt or vout on on ton on ts urf nt stru tur s

ts nou, to sp f ts f t v u $E_i A_i t$ tr ont n pro t s f on f n r t n p n n t r qu v n s tr v sn $E_i A_i t$ $B BP_t B | A_i t$ n

$$\mathsf{P}_{\mathsf{t}},\mathsf{B}|\mathsf{A},\mathsf{t} \qquad \sum_{i=1,i=i+1}^{\mathsf{N}-1,\mathsf{N}} \mathcal{W}_{i,i}^{(\mathsf{B})_{i,i}} \ldots = \mathcal{W}_{i,i}^{-1-(\mathsf{B})_{i,i}},$$

r W E,A,t·_t|A,t Hn s sp gour o fort sto, st nt or vo ut on v

$$= \mathbf{E}_{\mathbf{x}} \mathbf{A}_{\mathbf{x}} \mathbf{t} \cdot \underline{\mathbf{x}}_{\mathbf{x}} \mathbf{t} = \mathbf{A}_{\mathbf{x}} \mathbf{t} \cdot \underline{\mathbf{x}}_{\mathbf{x}} \mathbf{t} - \mathbf{A}_{\mathbf{x}} \mathbf{t} - \mathbf{A}_{\mathbf{x}$$

 $v = s t = Hr t r = tr v = gun t on F s s = tr : t = s = r o on n su t t = ints o r t = n s = r n = r t = r t = F.A.t, X.t = -A.t {Death rates} - 1 - A.t {Birth rates}.$

trs po nu ons rton, r lot, r r no stnus, n v u st n n ust nvr nt un r n pr ut ton ont, v rt, s o nor r p jQ t, \mathbf{F} \mathbf{A} , \mathbf{X} \mathbf{Q}^{T} , \mathbf{F} , \mathbf{Q} , \mathbf{A} , \mathbf{Q}^{T} , \mathbf{Q} , \mathbf{X} , \mathbf{Q} , \mathbf{Q} , \mathbf{Q} , \mathbf{Q} , \mathbf{A} , \mathbf{X} ,

s s not s r str t v s t pp rs For s nvo v n po no s or H r pro u ts oppono snA stat srstr ton In GH tass trau st rato ppro 🚽 s n

pnn oFuponXsrt sn tou oupst sst vnn o op - ts nton nt ntroos nFs rrFF J F

			4
surnt, s, rt	t	nt,	orrsponnprsopyrt, stts ost n

ons, rt, n, n, r, o no It s, v, n f, x, $p - x_1 x_2^2, q - x_2 \cdot x_1 x_2^2 T$, f, x, $p - x_1 x_2^2, q - x_2 \cdot x_1 x_2^2 T$, r p n q r post v onst nts It, st, t, qu, r, u $x^* = \frac{p}{p \cdot q^2}, p \cdot q$. Cons, r, t, D df, $x^* = \frac{p}{p \cdot q^2}, p \cdot q^2 = \frac{2p}{p + q}$. s s st t tr f n on $p \cdot q^3 > p - q$. o ons, r, df, $x^* = \frac{1}{p}$ Its, nv us s \pm st s $2 - \dots - p \cdot q^2 \cdot \frac{p - q}{p \cdot q} = -\frac{1}{n}, d_1 \cdot d_2 \cdot d_1$, i r h, $d_1 d_2^2 - \dots d_1 \frac{p - q}{p + q} = -\frac{1}{n}, d_1 \cdot d_2 \cdot d_1$, i r h, $d_1 d_2^2 - \dots d_1 \frac{p - q}{p + q} = -\frac{1}{n}, d_1 \cdot d_2 \cdot d_1$, i $x + \frac{1}{2} - \frac{1}{2} - \frac{1}{p + q} - d_2, p \cdot q^2 \cdot \frac{p - q}{p \cdot q} = -\frac{1}{n}, d_1 \cdot d_2 \cdot d_1$, i $x + \frac{1}{2} - \frac{1}{2} - \frac{1}{p + q} - d_2, p \cdot q^2 \cdot \frac{p - q}{p \cdot q} = -\frac{1}{n}, d_1 \cdot d_2 \cdot d_1$, i $y + \frac{1}{2} - \frac{1}{2} + \frac{1}{2} - \frac{1}{2} + \frac{$

5. Projections

H r s, prsntso s u tonsont s st n t output s v r on s r s or vr r tr s t s vs r ut to vsu - r'nt prozitions to 'ptur't, strutur or ur n t or t t s, po so 🕇 stput, t tos o t t t s psu op ro ur proz tons r of t, for . B B Α P_B A r •• not st, Fro nus nn r pro ut v n $\mathbf{A} \cdot \mathbf{B} \cdot \mathbf{i}_{j} \mathbf{A}_{ij} \mathbf{B}_{ij}, \mathbf{A}$ s n \mathbf{i} n tr \mathbf{i} n \mathbf{B} s v n r s r tr \mathbf{i} nor so t t $\mathbf{B} \cdot \mathbf{B}$ tretnt nBs vnr s s A B st sp nn n t, proz t on sp p tu oft pror t on PB or sp Ο not /¹ - <u>n</u>,n -=1,t, nor tr 🖍 n n clique projection not R 🍋 qu $\mathbf{R}_{i}\mathbf{A} = \mathbf{P}_{\hat{1}}\mathbf{A}$. • p tu op t proz t on R s p ounts t nst nt nr z n * tre A nrt nvovnntor Alt nstts Xltusns srtt stps t q n t p r t rv u s N q q d_1 d_2 q q q qn . Int's s strt fro nEros n nt or ts nt t st p rn s n nt urn npro for t t Fur sost procton ptu pott ustritst ostprotint sntor—s nst nst t n r A ostpro vour nusu osrv no př n sst s pro r tn t, n s nto to nsons s n st t sp n o oo por s on provition to t sort o on to t rst ppost tW sr s tr n su t t $W \cdot W$ n $W \cdot 1$ n ours on provision S \sim t $S \land P_W \land S \circ t t 1 n 1 \cdot W$. uppost t**W** sr s o pos nto o n ton o our pror tons S n R At n t t A t pus rror tr s not **E**, t s**p**oos

 $A_{t}t = R_{t}A_{t}t - E_{t}t$

. 2







 $p \mathbf{n} \cdot \mathbf{n}$

$$\mathbf{u}$$
 $df_{\mathbf{x}} \mathbf{x}^* - \mathbf{ND} d\mathbf{u}$.

For \hat{r} p st $||\mathbf{u}|| = -t n \left| \frac{||\mathbf{u}|| - \hat{\mu}}{\mu} \right|$, r, $\mu > 0$, os n so t, t s t, srp, s sr s $||\mathbf{u}||$ n r s s t, rou, n su t v u s nu r so ut on s, o s t, t t, s st s st s s poss ss s p r o or ts

6. Conclusion

s o ssottt nnvvus or nn n quru tn tr tvten nn tortnn sroup prsn oop tn sou ptrtv oo so onvrn to tnor n onsrvtv vours notstross poputon n rn onstntsttor u t fosop stuton sprt t vourn sorn vus rnot tn ot trnst n stots vrsons ot o rrrso o ntfors nsoo ono s o ssrttt vrntttus s s n so nor srqur rs n r pos on poputons: or s t r rvn prt prn s n vnts But r ns t tt trns nt st n o o ust r su roups o n vrs v s n, n r n t vour t nu oup sst s, s n t nor st to rs t n so t s vn t out trn ts n or n tr s S

Acknowledgements

- Grnro H, DJn rsons C Bst t trou, tr osur Intrnt t t s
 - rson tors Ann vo Co J Brson t Hoop n

Hoo B 🚽 🗗 I us on H rp rCo ns 🤉

- Bn rost JGr, CA Jnssn En rs A, u ontro o urr nt st tus nouture r tons J e s 🕵 r June .
 - Gr JA, , ps oo ge rn strss Cr, Cr, nyrst rss
 - Grnro ttrnsn vsn Eton for
- r JAn Grnro Apro n sn trnst o u tur ss n ton Dr**g**t su tt