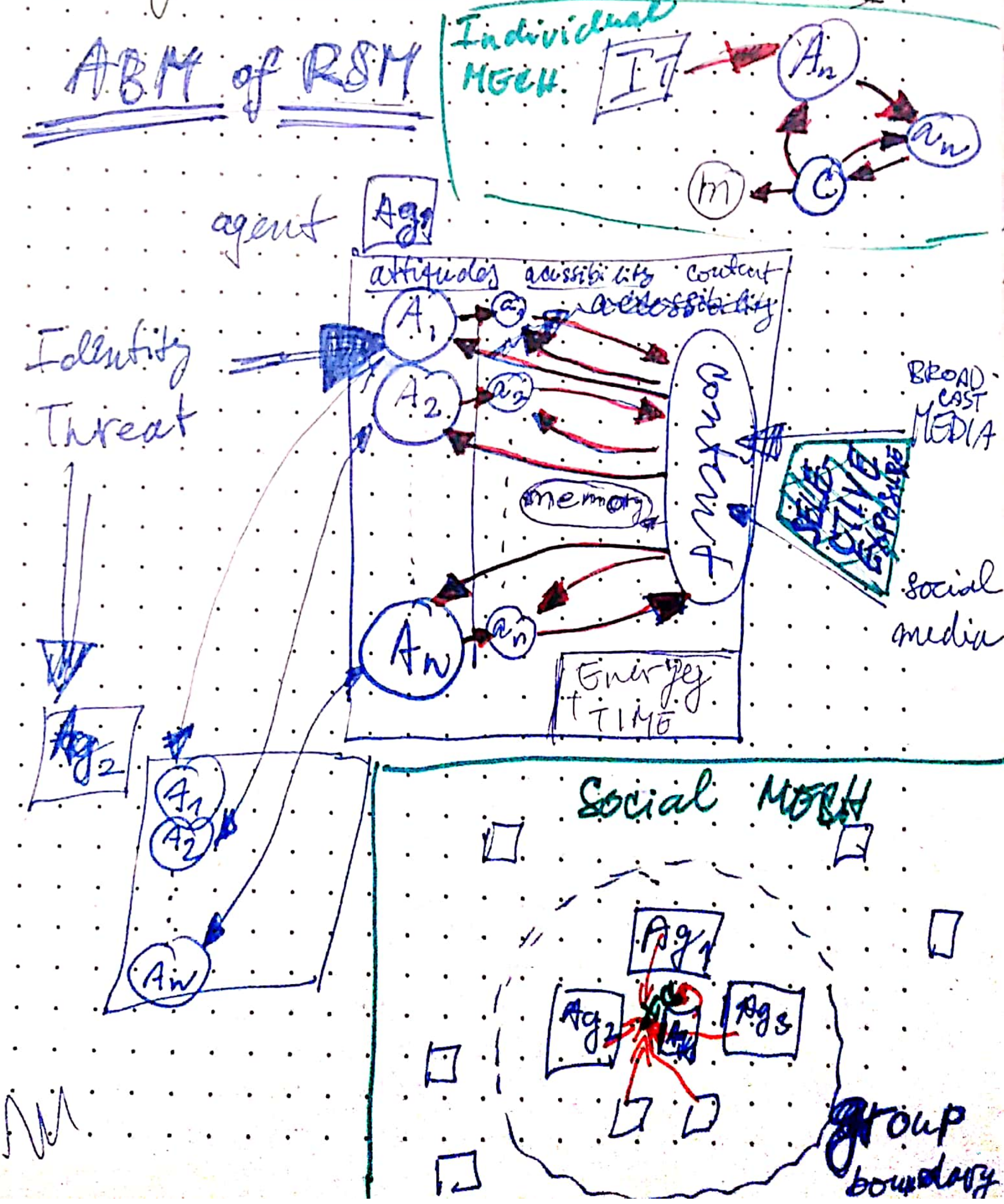
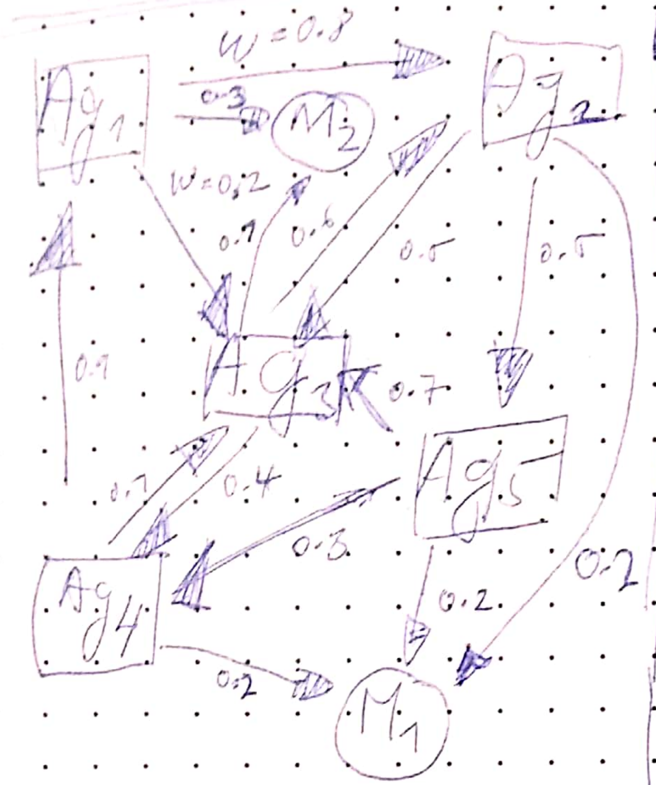
ABM of RSM


Individual MECH
IT
A_n
a_n
C
m
agent
Ag_1
attitudes
accessibility
content
accessibility
A_1
a_1
A_2
a_2
memory
context
BROADCAST MEDIA
SELECTIVE EXPOSURE
social media
A_N
a_n
Energy
TIME
Identity Threat
Ag_2
A_1
A_2
A_N
Social MECH
Ag_1
Ag_2
Ag_3
Ag_4
group boundary

Communication network (asymetric)



① ⓑ contact Ag_2

$$Ag_3 \underset{0.5}{\overset{0.6}{\rightleftarrows}} Ag_2$$

ⓐ THREATH

② answer of Ag_2 threath Ag_3 more

$$Ag_3 \leftarrow Ag_2$$

③

$$Ag_3 \underset{0.5}{\overset{*0.5}{\rightleftarrows}} Ag_2$$

* Ag_3 updates weight

a) $0.5 = 0.6 - \Delta$ $(\Delta = 0.1)$

b) $0.5 = 0.6 * \Delta$ $(\Delta = 5/6)$

c) $0.5 = 0.6^{\Delta}$ $(\Delta \cong 1,5)$

④

$$Ag_3 \dashrightarrow Ag_2$$

On another ocasion Ag_3 suppress threath of Ag

⑤

$$Ag_3 \underset{0.6*}{\overset{0.5}{\rightleftarrows}} Ag_2$$

Ag_2 updates weight

a) $0.6 = 0.5 + \Delta$ $(\Delta = 0.1)$

b) $0.6 = 0.5 * \Delta$ $(\Delta = 6/5)$

c) $0.6 = 0.5^{(1/\Delta)}$ $(\Delta \cong 1,5)$

Media are nodes in asymetric network but there are only incomming lines!, i.e. agents demands info from media, "contact" media but media do not "contact" them.

IT → attitude related content consumption

$$IT = \frac{LowAtt^2}{HiAtt} > threshold \; (TH)$$

IT is TRUE if ratio of squared weight of Lower weight component towards weight of Higher weight component is higher than (TH).

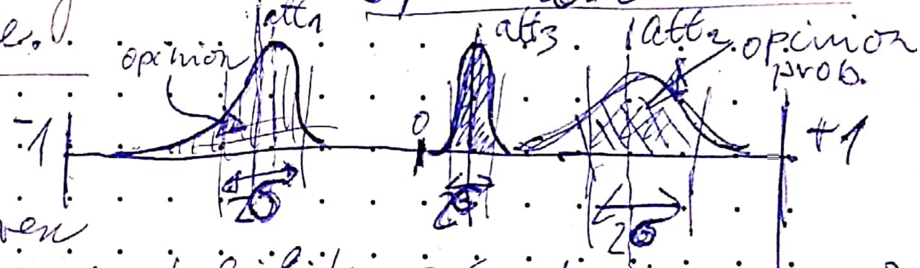
~~Threshold is~~ Weight of PRO/CON attitude component is sum of weights of Ags and Ms from which agent receive information.

under the identity threat agent randomly chooses other agents and media according their weight until she is exhausted or calms threath.

Asking agent reports threathening info/attitude and threathening agent. Asked agent stores threathening info/att and ((a) weight of original agent or) (b) weight of asking agent. (b is better, because the asking agent is really the one passing info/att.)

Threathening info is the (a) last, (b) most threatening (c) randomly chosen from all threathening proportionally to their weight, (d) randomly chosen ~~from~~ last exceeding info. (exceeding info, are the most recent pieces of info which causes threath ⇒ e.g. we include last piece, cut it, if threath ~~stay~~ survive, we include second, if — , until threath disappear, then we ~~have~~ last exceeding info)

Asked agent or Medium gives back to the asking agent its opinion derived from attitude.



Derrived opinion is given by attitude, acceptability σ (and skewness γ).

~~?~~ ~~6~~, when Ag_3 is threathen, asks Ag_2 for opinion. Ag_3 gives also one of threathening pieces of info as support for its demand. Ag_2 stores piece of info with weight of Ag_3.

Then Ag_2 derives opinion from her attitude and gives it ~~Ag~~ 3. Ag_3 updates weight of ~~Ag_2~~ ⇒ if given opinion lowers IT, weight is proportionaly higher, if IT

4/

is higher because of opinion, weight is lowered

Ag_3 naturally before this, updates IT.

If opinion given by Ag_2 is in σ_{Ag_3} from attitude of Ag_3 it is supporting, if it is farer than σ_{Ag_3}, it is opposing. If the opinion of Ag_2 solves IT of Ag_3, then Ag_3 stops, if not, then Ag_3 continues until is exhausted, if is exhausted, Ag_3 stops. Every step of updates lowers energy E by ε.

Note, also answering lowers E by ε.

Note, media give opinions in same way, but just not stores supporting info, only give opinion according attitude, σ_{medium} and ~~J~~ and media are not exhausted - they are endless reservoir of info.

Note, it might happen that agent Ag_2 might be exhausted before solving IT because of answering demands of other agents.

Note, if agent is exhausted then refuses all demands for giving opinion.

Note, if agent is fresh enough she might randomly chose again same agent for opinion.

Computing component weight again:

a) $\sum_{j=1}^{n} w_j$ - just weights of supporting opinions (resp. opposing opinions)

b) $\sum_{j=1}^{n} w_j * \left[(-|attitude_i - opinion_j| + \sigma_i) / \sigma_i \right]^k$ supporting

$\sum_{j=1}^{n} w_j * \left[(|attitude_i - opinion_j| - \sigma_i) / \sigma_i \right]^k$ opposing

k - modulation coefficient might be 1 and then without effect

(weights of pieces, not opinion of pieces)

Memory is every day updated by Ebinghouse curve. Pieces with weight less than μ (general param.)

Note, if agent is not exhausted, she might also com. with herself, then she searches her memory, probability of pieces is proportional to their weights. Weight of agent [illegible]

Updating of attitude

Note: if $\frac{1}{\frac{LowAtt}{HiAtt}^{2}} > 1$ then it is 1.

Individual

a) $\frac{Att_i + \sum \text{opinions in memory}}{2} * 1 / \frac{LowAtt}{HiAtt}^{2}$

b) if $att_i > \sum$ opinions in memory
$\Rightarrow att_{i(t+1)} = att_{i(t)} - 1 / \frac{LowAtt}{HiAtt}^{2}$

if $att_i < \sum$ opinions in memory
$\Rightarrow att_i(t+1) = att_i(t) + 1 / \frac{LowAtt}{HiAtt}^{2}$

Social

a) $\frac{|Att_i + \sum_{j=1}^{n} att_j \text{ in radius } \sigma_i|}{2} * 1 / \frac{LowAtt}{HiAtt}^{2} \pm att_i$

b) $\frac{att_i + \sum_{j=1}^{n} att_j \text{ i radius } \sigma_i}{2}$

Updating σ_i

Individual

threat $\Rightarrow$ lower σ (narrower)
no threat $\Rightarrow$ wider σ (higher)

Social

$\sigma_i = \sum_{j=1}^{n} \sigma_j / n$ $\Rightarrow$ average σ of agents inside σ_i