THE SCIENCE OF COUPLES AND FAMILY THERAPY

Completing the General Systems Theory of families

JOHN

FIFTY YEARS AGO

GENERAL SYSTEMS THEORY WAS BORN

1968. Ludwig von Bertalanffy started it

The Old General Systems Theory

This started a huge revolution in psychotherapy

- More than one client at a time
- The therapist became active
- The topic wasn’t projection, the unconscious, but interaction, communication, messages
- Therapist could say things like, “WHAT DO YOU THINK OF WHAT SHE JUST SAID?”
- A cornucopia of new therapeutical techniques emerged.
- New charismatic gurus of therapy emerged
Bateson, Haley, Satir

Minuchin

It Became A Movement

NEW CONCEPTS

A Couple is a System
HOMEOSTASIS – A REGULATED BALANCE

META COMMUNICATION

The Double Bind

It Was Holistic

“The whole is greater than the sum of its parts”
Where are we now?

UNFORTUNATELY
WE NOW HAVE ONLY A ½ SD
EFFECT SIZE IN MARITAL AND
FAMILY THERAPY (Pinsof & Wynne)
WHAT THAT MEANS

UNFORTUNATELY
WE NOW HAVE ONLY A ½ SD
EFFECT SIZE IN MARITAL AND
FAMILY THERAPY (Pinsof & Wynne)
WHAT THAT MEANS

PEOPLE CLAIM “WE HAVE AN
EVIDENCE-BASED THERAPY”
BUT IT’S EMBARRASING

Not Very Useful
• BEST COUPLE THERAPIES
  MOVE COUPLES FROM
  WORRIED WELL TO BLAH
• NOT IMPRESSIVE!
• NEED TO HELP CREATE
  GREAT RELATIONSHIPS.

CAN WE HELP COUPLES BE IN LOVE
FOREVER?
What Is The Magic of Love?
Tom Hanks said it well in “Sleepless in Seattle”
Tom Hanks & Meg Ryan

THE MAGIC OF LOVE

- Marsha: Sam, tell me what was so special about your wife.
- Sam: Well, how long is your program? Oh well it was a million tiny little things. We were supposed to be together and I KNEW it. I knew it the very first time I touched her. It was like coming home, only to no home I’d ever known. It was just taking her hand to help her out of the car, and you know it was MAGIC.

Esther Perel claims that we can’t be in love for longer than 18 months.

Esther Perel claims that EROTIC LOVE and ATTACHMENT SECURITY are at war with one another

THE CLAIM IS, AFTER 18 MONTHS

"I love you but I'm not in love with you."

THIS CLAIM IS NOT BASED ON
CAN ONE BE “IN LOVE” FOREVER?

WHAT DOES SCIENCE SAY?

• Helen Fisher’s research puts people in love in an fMRI tube.
• Pleasure center of brain lights up when they look at pictures of the one they are in love with, compared to picture of a stranger.

Scientific Conclusion: There is no shelf life for being “in love”. EVEN AFTER 30 YEARS, STILL IN LOVE

Now we know the huge benefits of the magic of love

• Huge benefits of happy, stable relationships
• Longevity (10 to 15 years more)
• Greater Wealth
• Health, immune functioning
• Faster recovery from illness
• Children do better academically and socially
• In middle age children don’t have chronic illnesses

But, can science really find the magic of love?

We need better theory

Not just general systems theory
Metaphors
OUR NEW SYSTEMS THEORY

We need to sharpen concepts

FIRST STEP – GET DATA DATA DATA DATA DATA DATA

So, 45 years ago, we built the “Love Lab”

A Bromance

Robert Levenson and John Gottman

A Romance

Julie Gottman and John Gottman
We use our own validated questionnaires

We Get a Relationship Checkup Summary – Strengths and Challenges
40,000+ couples have done this

We Get Their “Story of Us”

We collect physiological measures

Split screen video

We score their emotions second by second
We have them use the Video-Recall Rating Dial – to get their perceptions

We synchronize video, physiology, coded emotion, and perception

So, what did we find?

We got over 90% success rate predicting divorce or stability and happiness

And the effects replicated six times

We follow them for as long as 20 Years – straight, gay and lesbian, newlyweds, middle aged, older couples

We’re not alone. Other labs now get similar results.
What Predicts?

Concept of Homeostasis Was Taken from Biology
BUT...

With Blood Pressure We Know What Homeostasis is, BP < 120/80 and what the Mechanisms Are to Control It

BY PREDICTION, WE CAN NOW DEFINE WHAT “HOMEOSTASIS” IS IN A COUPLE

“5 – TO – 1” POSITIVE TO NEGATIVE RATIO

The “Dow-Jones” of a Couple’s Conversation
LOW RISK AND HIGH RISK COUPLES
The balance of positive and negative emotions is our key index of the magic

\[ \text{Balance of positive and negative emotions} \]

\[ \text{Ratio in Unhappy or Unstable Couples During Conflict} \]

0.8:1

\[ \text{Balance of positive and negative emotions} \]

\[ \text{Ratio in Happy Stable Couples During Conflict} \]

5:1

Unhappy Marriages say “NO!”

Roach Hotel Model: They check into Negativity but they don’t check out
Now we can index the magic: It’s 5 to 1

Now need to know: what creates the magic

Now that we have an index of homeostasis

What is the mechanism of change?

The search for mechanism

This creates a new systems therapy

First, let’s talk about calm physiology

Calm physiology predicted the future of a relationship with high accuracy

Result extended by the Glasers
PHYSIOLOGICAL AROUSAL PREDICTS DIVORCE AND RELATIONSHIP UNHAPPINESS

- The faster your heart beats during conflict,
- The faster your blood flows,
- The more you sweat from your eccrine glands,
- The more you secrete cortisol & adrenaline in your blood (our 2 stress hormones),
- The greater the likelihood the relationship will deteriorate over time

Why is calm needed?

CALM ⟷ LISTENING & EMPATHY

FLOODING ⟷ ATTACK & DEFEND

WHEN PHYSIOLOGICALLY FLOODED

- NO PERIPHERAL VISION
- HEARING COMPROMISED
- CAN’T LISTEN AT ALL
- FEEL SENSE OF DANGER
- WANT TO RUN AWAY & HIDE
- CAN’T EMPATHIZE
- NO SENSE OF HUMOR

IT’S WORTH REPEATING: WHEN PHYSIOLOGICALLY FLOODED

1. CAN’T LISTEN WELL, CAN’T HEAR AS WELL
2. REPEAT ONE’S SELF, TUNNEL VISION
3. RAISE VOICE, SHOUT, YELL
4. GET ANGRY AND AGGRESSIVE
5. GET DOMINEERING
6. NO ACCESS TO ONE’S SENSE OF HUMOR
7. NOT A CREATIVE PROBLEM SOLVER
8. CAN’T EMPATHIZE WELL
9. PERSON IS NOT NECESSARILY NARCISSISTIC
10. JUST FLOODED

SYMPATHETIC AROUSAL DURING CONFLICT: FIGHT, FLIGHT, OR FREEZE

THERAPIST CANNOT TELL IF CLIENTS’ HEART RATE IS HIGH

THEY CANNOT TELL EITHER
MUST USE THE PULSE OXIMETER

FACELAKE

COST IS $15 EACH. MUST BUY 2 OF THEM

COUPLES NEED SELF-SOOTHING SKILL

- Teach couple awareness of FLOODING and its consequences
- USES PULSE OXIMETERS
- Teaches couple to take effective breaks
- Increases Vagal Tone (with the Emwave device and mindful meditation).
- Teaches partner to read Relaxation Instructions. Doesn’t do the soothing.

SUMMARY

- WHAT IS HOMEOSTASIS?
- 5 TO 1 POSITIVE-TO-NEGATIVE AFFECT – DURING CONFLICT
- MECHANISM? CREATED – IN PART – BY CALM PHYSIOLOGY

HOW TO CREATE CALM PHYSIOLOGY

VAGAL TONE IS THE ABILITY TO SELF-SOOTHE AND CONNECT

OUR BUDDY, STEVE

BUILD VAGAL TONE

USE HEART MATH’S EMWAVE – Getting into the Green Zone
SO, CALM PHYSIOLOGY
IS PART OF THE MECHANISM FOR
CREATING
THE HOMEOSTASIS OF 5-TO-1

MORE SEARCH FOR
MECHANISM

JULIE GOTTMAN’S NEW BOOK

A SAMPLE:
THREE GOTTMANS’ COUPLES’
INTERVENTIONS

1. POSITIVE STARTUP
2. TURNING TOWARD & ACCEPTING
   INFLUENCE
3. REPAIR. Repair during conflict & Repair
   past emotional wounds

1. THE POWER OF POSITIVE
STARTUP

STARTUP: THE WAY AN INTERACTION
STARTS DETERMINES ITS FUTURE 96% OF
THE TIME
1. Gottman-Rapoport: For current conflicts, mirroring + gentle startups.
2. Dan Wile’s Methods: Move attack-defend to self disclosure
3. Dreams within conflict: Six questions about the meaning of each person’s position on issue.

2. THE POWER OF TURNING TOWARD & ACCEPTING INFLUENCE

EVERYDAY ATTUNING BUILDS TRUST & POSITIVE AFFECT HOMEOSTASIS

BUILD INTIMACY: TURN TOWARD BIDS
- Newlyweds who divorced six years later had turned toward 33% of bids in apartment lab
- Those who stayed married had turned toward 86% of bids
- Turning Toward is building an emotional bank account

EVERYWHERE ON OUR PLANET – WHAT DOES IT TAKE TO HAVE A GREAT SEX LIFE?
EXAMPLE: TURNING TOWARD BIDS IN
THE SENSUALIST EMOTIONAL COMMAND SYSTEM

COUPLES WHO HAVE A GREAT SEX LIFE IN 24 COUNTRIES — A baker’s dozen
1. Say “I love you” every day and mean it.
2. Kiss one another passionately for no reason at all
3. Give compliments
4. Give surprise romantic gifts
5. Know what turns their partners on & off erotically
6. Are affectionate in public
7. Play together, have fun
8. Cuddle (only 6% of non cuddlers had good sex life)
9. Make sex a priority
10. Stay good friends
11. Can talk about their sex life
12. Have weekly dates
13. Take romantic vacations

COUPLES WHO HAVE A BAD SEX LIFE EVERYWHERE ON THE PLANET
The Sloan Center at UCLA found that most dual-career couples
• Spend very little time together during a typical week
• Become job-centered and child-centered
• Talk mostly about their huge to-do lists
• Only talk 35 minutes a week.
• Seem to make everything else a priority other than their relationship
• Drift apart, and lead parallel lives, become lonely

IT’S NOT ROCKET SCIENCE
THERAPIST MUST HELP CHANGE PRIORITIES ABOUT ROMANCE

3. THE POWER OF REPAIR – REPAIR DURING CONFLICT, AND REPAIR PAST EMOTIONAL WOUNDS

WE NEED REPAIR DURING CONFLICT
Because Negative Affect Increases in Conflict Discussions

Estimated Marginal Means
MEAN WIFE NEGATIVE AFFECT
MEAN HUSBAND NEGATIVE AFFECT
Our Empirical Study of Effective Repair

- Effective repair needs to be early, before negative affect has escalated too much & emotional
- Best repair: Take responsibility for even a part of the problem “It’s not all your fault.”
- Especially effective for hetero men
- Gottman Repair Checklist

Repairing Past Emotional Injuries

- MORE SEARCH FOR MECHANISM
- WE NEED A DYNAMIC THEORY

NEW SYSTEMS THEORY IS DYNAMIC

THE MATH OF CHANGE
With over 90% prediction...

Can we describe The Mathematics of Love?

Is this Obscene, putting love and math together?

No, Because it isn’t science if it can’t be described with Math
Math is the Language of Nature

A DYNAMIC PICTURE
TELLS US HOW THE INTERACTION UNFOLDS OVER TIME

Because we get data over time

H1, H2,...,Ht, H(t+1),.... W1, W2,.... Wt, W(t+1),....
The Love Equations

GIVE US THERAPY PARAMETERS

\[
\begin{align*}
W_{t+1} &= a + r_1 W_t + I_{Wt}(H_t) \\
H_{t+1} &= b + r_2 H_t + I_{Wt}(W_t)
\end{align*}
\]

The Influence Functions

\[
\begin{align*}
W_{t+1} &= a + r_1 W_t + I_{Wt}(H_t) \\
H_{t+1} &= b + r_2 H_t + I_{Wt}(W_t)
\end{align*}
\]

Startup: Uninfluenced Portion

Accept Influence: Reduce Emotional Inertia

The Couple’s Phase Space

Now we draw a PHASE SPACE portrait of a couple’s interaction
Equations Map Them In Phase Space

```
H Positive  W Positive
H Negative  W Positive
H Negative  W Negative
H Positive  W Negative
```

Conversational Flow over Time in Phase Space

Now Can Do Scientific Relationship Evaluation
THE GOTTMAN INSTITUTE

GOTTMANS’ NEW LOVE LAB
Data Collection
NOW IT’S WIRELESS

Our Fearless Leader
CARRIE COLE, RESEARCH DIRECTOR, TGI

They Come to the NEW LOVE LAB
One of Three Cameras

Narrative, Oral History
Interview, & Individual Sessions

Control Room

View From Control Room

Couple has Events & Conflict Discussions

Amanda & Patrick Wired Up
Narrative, Oral History Interview, & Individual Sessions

Amanda & Patrick Conflict Discussion

Video Recall Setup

Video Recall Rating Dials Will Also be for 10-code SPAFF Emotion Behavior

The Rating Dial Itself

REMEMBER OUR 5 TO 1 RATIO?

Figure 1. Correlates of Clinical Interactive Scoring System (CISS) measures with regard to a regulated (low risk) and an unregulated (high risk) couple. Pre, Post = Positive-Postive; Revised at from “Marital Premarriage Predictors of Last Cardiovascular, Behavior, Psychosocial, and Health” by J. M. Gorman and M. W. Levine, 1992. Journal of Personality and Social Psychology, 63, p. 225. Copyright 1992 by the American Psychological Association.
Forces make that dot move:
Creating the flow toward two possible ATTRACTORS

![Diagram showing forces and ATTRACTORS]

HOW ATTRACTORS WORK

- “I’m worried about our finances.”
- IF RESPONSE IS, “Tell me more about what worries you. I’m listening.”
- COUPLE IS DRAWN TO THE POSITIVE ATTRACTOR
- IF RESPONSE IS, “There you go again. You are always so negative!”
- COUPLE IS DRAWN TO THE NEGATIVE ATTRACTOR

What’s Making The Dot Move?

ATTRACTIONS

Flow and force

You have seen phase space flow of hurricanes

Do we see this with real data?
Stable, Unhappy Marriage

Wife’s Score

Husband’s Score

Divorced

Wife’s Score

Husband’s Score

TURBULENCE

The real test...

Scientific Evaluation Did It!

Amanda & Patrick Dow Jones CumSum Plots

Rating Dial Conflict

Accumulated Pos−Neg

Amanda

Patrick

0 50 100 150

−60 −40 −20 0
Rating Dial Parameters - Conflict

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>AMANDA</th>
<th>PATRICK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Startup</td>
<td>-.11</td>
<td>-.13</td>
</tr>
<tr>
<td>2. Accepting Influence</td>
<td>.86</td>
<td>.72</td>
</tr>
<tr>
<td>3. Pos affect power</td>
<td>.26</td>
<td>.13</td>
</tr>
<tr>
<td>4. Neg Affect Power</td>
<td>-.92</td>
<td>-.17</td>
</tr>
<tr>
<td>5. When Turn Toward</td>
<td>.9</td>
<td>1.1</td>
</tr>
<tr>
<td>6. Strength Turning</td>
<td>-.27</td>
<td>.45</td>
</tr>
<tr>
<td>7. When Repairs</td>
<td>-.3</td>
<td>-.3</td>
</tr>
<tr>
<td>8. Strength Repairs</td>
<td>-.19</td>
<td>-.67</td>
</tr>
</tbody>
</table>

Remember the Bunnies?

Phase Space Amanda & Patrick NOW

With the Math
We can Simulate any Couple
Under New Imagined Conditions
By Changing Parameters

We can Select the Best Intervention to Help a Couple Using Mathematics

We now simulate change for Amanda and Patrick
WE IMAGINE MORE POSITIVE STARTUP

PRETTY GOOD!

+ THEY ACCEPT MORE INFLUENCE

BETTER!

+ INCREASE POWER OF POSITIVE AFFECT FOR BOTH

BEST

MORE SEARCH FOR MECHANISM
WHAT ELSE TO CHANGE IN THERAPY?
SLIDERS SELECT INTERVENTIONS

• EIGHT PARAMETERS IN LOVE EQUATIONS
• 8 FOR EACH PARTNER

EIGHT SLIDERS

1. Positive Uninfluenced Startup
2. Accepting Influence – Change Emotional Inertia
3. The Power of Positive Affect
4. The Power of Negative Affect
5. Threshold of Turning Toward
6. Strength of Turning Toward
7. Threshold of Repair Attempts
8. Strength of Repair Attempts

THAT WAS FUN, LET’S DO IT AGAIN
The Problem is Clearly With Conflict

- Let’s examine the Phase Space Portraits for Events and Conflict
- Then let’s do some simulations with their Conflict Phase Space Portrait

NO MATTER WHERE THEY START, THEY END UP IN A SLIGHTLY NEGATIVE PLACE
Mike & Katelyn with more positive startup

Now Give Katelyn More Power with Positive Affect

THIS IS GOOD!

THIS IS THE BEST

Now They Are Looking Good

NOW THE THERAPY HAS A DIRECTION

MORE SEARCH FOR MECHANISM WHAT ELSE CREATES THE MAGIC?

TRUST

TRUST

INTIMACY

DISTRUST

LONELINESS

TRUST

IS ALSO ESSENTIAL
ONE CAUSE OF DYSREGULATION IN PHYSIOLOGY AND AFFECT?

ANSWER: LACK OF TRUST

A SAFE HAVEN REQUIRES TRUST

Loneliness, not sex or desire, is the major reason people have affairs

SUE JOHNSON & THE SAFE HAVEN

A SAFE HAVEN REQUIRES TRUST

WHAT IS “TRUST”

CAN WE DEFINE IT?
CAN WE MEASURE IT?
THE MATH OF GAME THEORY

Game Theory

- Views a behavior exchange
  – Jane SMILES and Harry FROWNS
- SELECTED STRATEGICALLY,
- Maximize A BENEFIT METRIC.

CAN MEASURE A TRUST METRIC

Mutual Trust = both partners maximize benefits for both people

SEARCH FOR MECHANISM: WHAT ELSE CREATES THE MAGIC?

COMMITMENT

BETRAYAL ALSO DESTROYS RELATIONSHIPS
WHAT'S THAT ABOUT?
Control Power Struggles: Win-Lose Dynamics

ESCALATING QUARRELS

WE HAVE ALL SEEN COUPLES LIKE THIS ONE

Zero Sum Game = Betrayal Metric
NEGOTIATE FOR BEST DEAL FOR SELF REGARDLESS OF PARTNER OUTCOMES

GOTTMAN BETRAYAL METRIC = Rating Dials Correlate Negatively

Chase & Sarah
• It took him three years to propose to her
• After their engagement, Sarah had a ski accident.
• Chase had to take care of her for months.
• He let her know that he was not happy taking care of her for so long
• Chase’s commitment is conditional.
• In their conflict interaction, she does all the work while he is increasingly defensive
• Both people feel bad about their interaction

Chase & Sarah – Betrayal Metric
How they feel about their Interaction

Chase & Sarah – His Problem is Commitment

AS THERAPIST GIVES FEEDBACK, HE’S CHECKED OUT, SHE’S LEANING IN

Sarah & Chase Before

Sarah & Chase More Positive Startup

The Brilliant Caryl Rusbult – Commitment & Investment Theory

SO, COMMITMENT

IS ALSO AN ESSENTIAL MECHANISM FOR THE MAGIC
The Brilliant Shirley Glass – The Dynamics of an Affair

MAJOR CHOICE POINT IN RELATIONSHIPS
WHEN THINGS ARE NOT GOING WELL IN A RELATIONSHIP

BETRAYAL CHOICE
- TRASHING ONE’S PARTNER
- NURTURING RESENTMENT FOR WHAT YOU DON’T HAVE
- NURTURING “THINGS LOOK BETTER ELSEWHERE.”
- SUBSTITUTING FOR WHAT’S MISSING, Giving self permission.

COMMITMENT CHOICE
- CHERISHING PARTNER
- NURTURING GRATITUDE FOR WHAT YOU HAVE
- Saying “THIS IS MY JOURNEY. THIS IS THE LOVE OF MY LIFE”
- Saying “I AM LUCKY TO HAVE THIS PERSON”

HOW DO COUPLES BUILD COMMITMENT?
Cherishing, positive comparisons builds the commitment metric
- People invest more and more in relationship, sacrifice
- Nurture Gratitude for what is there in partner
- Wide fence between self & others

SUMMARY OF HOMEOSTASIS: 5-TO-1

Figure 1. Correlation between dyadic interaction systems; low- and high-risk couples. Reproduced by permission of the authors. Copyright 2017 by the American Psychological Association.
A NEW THERAPY: SUMMARY OF SEVEN MECHANISMS
1. CALM PHYSIOLOGY
2. POSITIVE STARTUP
3. GREATER POWER OF POSITIVE AFFECT
4. TURNING TOWARD & ACCEPTING INFLUENCE
5. REPAIR (Early & Effective) DURING CONFLICT & REPAIR PAST EMOTIONAL WOUNDS
6. BUILD TRUST
7. BUILD COMMITMENT

EVIDENCE? A SAMPLING

EFFECTS OF GOTTMANS’ BRIEF PSYCHO-EDUCATIONAL WORKSHOP

SEVEN PRINCIPLES COURSE

Art and science of love workshop
• EFFECT SIZE = 1 IN JUST 2 DAYS
• BUILDS THE TRUST METRIC
• MAKES CONFLICT CONSTRUCTIVE
• INCREASES INTIMACY, FRIENDSHIP
• SHARED MEANING SYSTEM BECOMES INTENTIONAL
• EFFECTS LAST UPON 1 YEAR FOLLOW UP
EFFECTS OF GOTTMANS’ COUPLES’ THERAPY
WITH GAY AND LESBIAN COUPLES

GAY & LESBIAN COUPLE THERAPY
EFFECT SIZE = 1.5, IN 11 SESSIONS

CURRENT TREATMENT FOR DOMESTIC VIOLENCE
• Two types of DV. Situational is 80% of all DV.
• Julia Babcock’s meta-analysis. Effect sizes .01 and .12, that is essentially nonexistent.
• All male group interventions have no effect beyond what is achieved by arrest alone.

COUPLES THERAPY ILLEGAL IN 31 STATES IN TREATING DV

Couples’ Treatment of Situational Domestic Violence
• We effectively screened out Characterological Batterers
• Then we used a Couples Group Therapy Approach – 22 two-hour sessions
• Teaching Physiological Soothing
• Conflict Skills
• Friendship & Intimacy Skills
• EFFECT SIZES 2.0
MALE HOSTILE BEHAVIOR

PHYSIOLOGY STAYED CALM ONLY IN EXPERIMENTAL GROUP DURING CONFLICT

EFFECTS OF GOTTMANS’ TRANSITION TO PARENTHOOD INTERVENTION

AND BABY MAKES THREE

WHEN A BABY ARRIVES

• 67% OF COUPLES HAVE DROP IN RELATIONSHIP SATISFACTION
• POST PARTUM DEPRESSION IS FREQUENT
• INCREASE IN PARENTAL HOSTILITY
• WHICH TRANSFERS TO THE BABY

THE INTERVENTION
BRINGING BABY HOME
INTERVENTION EFFECT SIZE = 4.0

• IN 2 DAY WORKSHOP
• REVERSE COURSE FOR 77% OF PARENTS
• INCREASED EFFECT WITH PARENTAL SUPPORT GROUP
• MARITAL SATISFACTION DOES NOT DECLINE
• HOSTILITY DOES NOT INCREASE
• POST PARTUM DEPRESSION SYMPTOMS GO FROM 66% TO 22%
• FATHERS STAY INVOLVED WITH BABIES, DAUGHTERS AND SONS
• BABY’S VAGAL TONE HIGH, LEARNS LANGUAGE EARLIER

BABY DIDN’T TAKE WORKSHOP

BABY MAKES THREE – Baby Soothability

Baby Distress to Novelty

CONCLUSION

• Science can specify the magic
• We have quietly created a new general systems theory of couples and families
• It has led to much larger effect sizes
• Encouraging, but
• Still a work in progress
Thank you for listening

The Gottman Institute

VISIT BOOTH 157 & 158 FOR MORE INFO