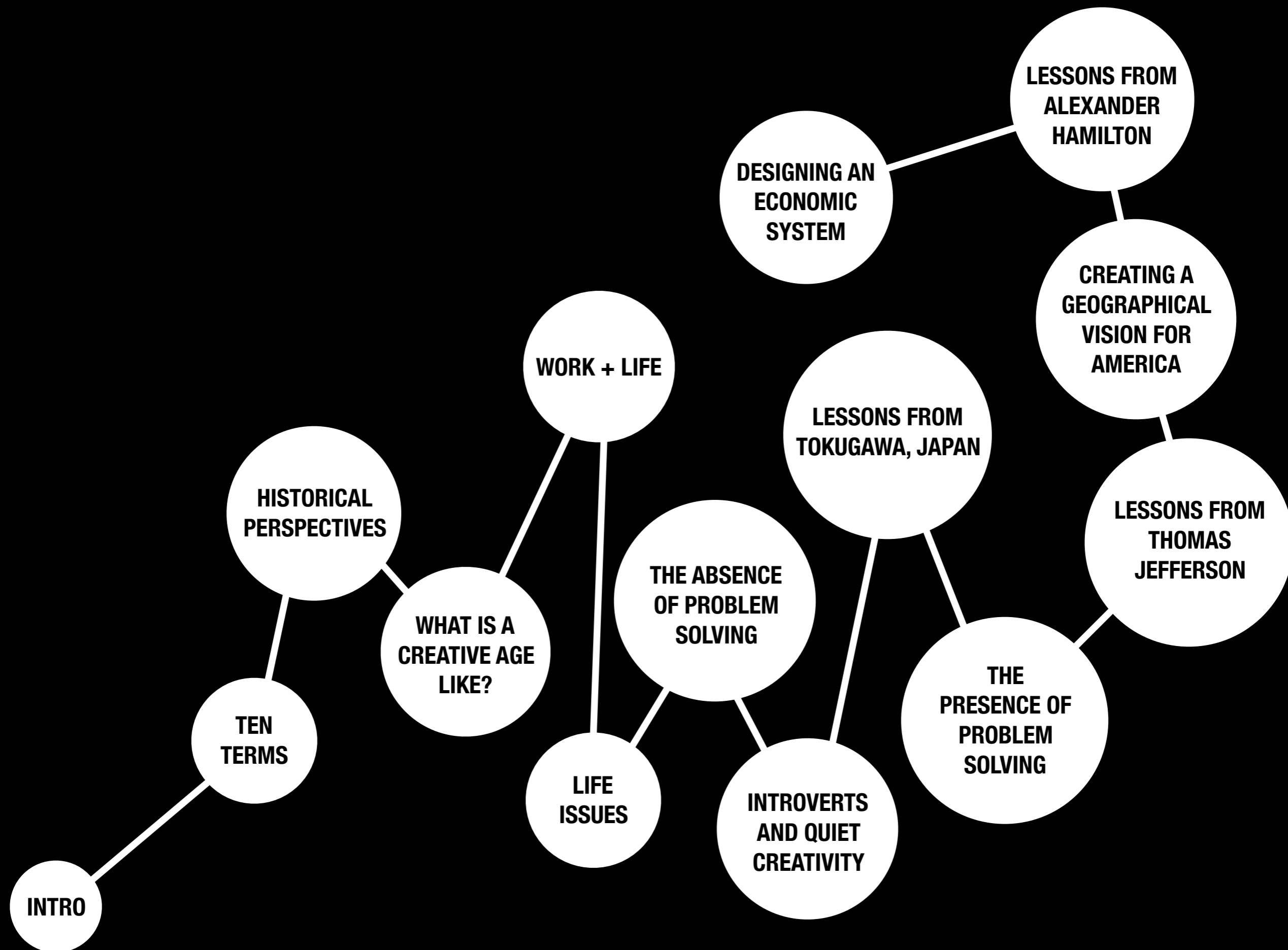
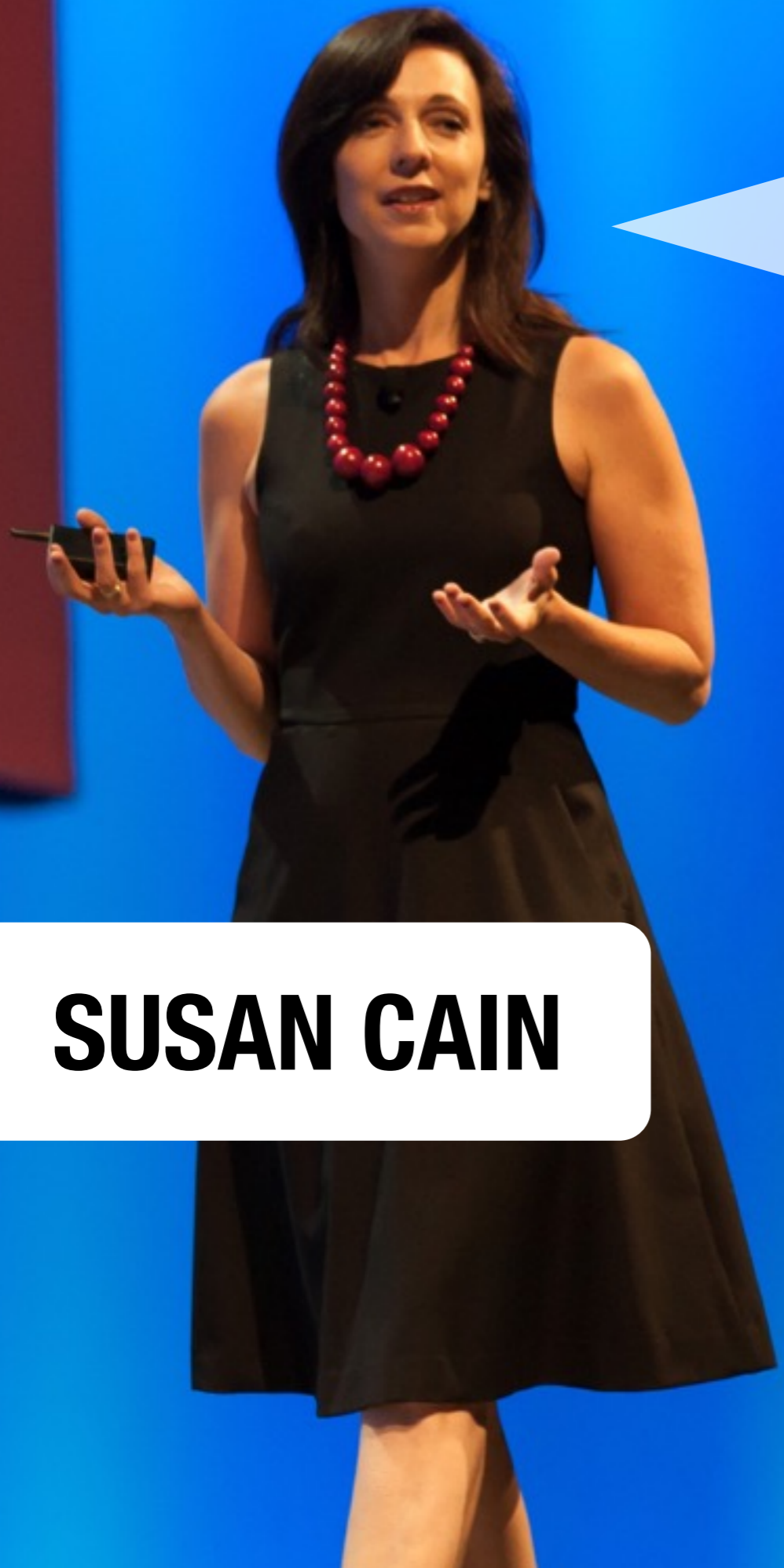


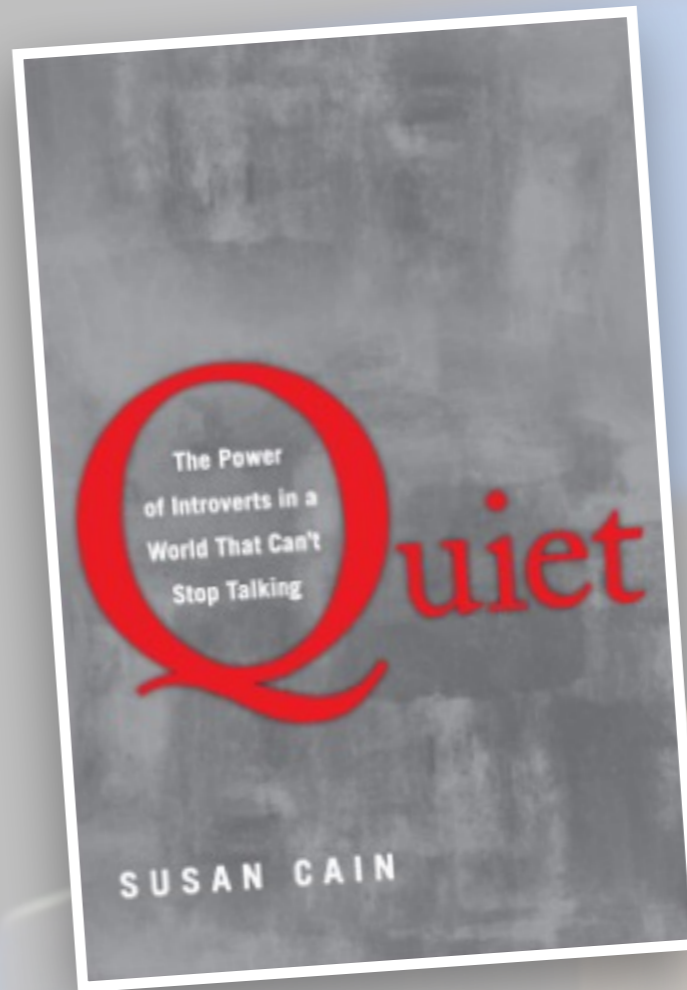
**CREATIVE
PROBLEM
SOLVING**



INTROVERTS AND QUIET CREATIVITY



SUSAN CAIN



**QUIET: THE POWER OF
INTROVERTS IN A WORLD
THAT CAN'T STOP TALKING**

**BUT HOW DID EXTROVERSION
BECOME A CULTURAL IDEAL?**



Ford

WOOLWORTH'S



20TH CENTURY TRANSFORMATION
TO BUSINESSMAN AND
SALESMANSHIP

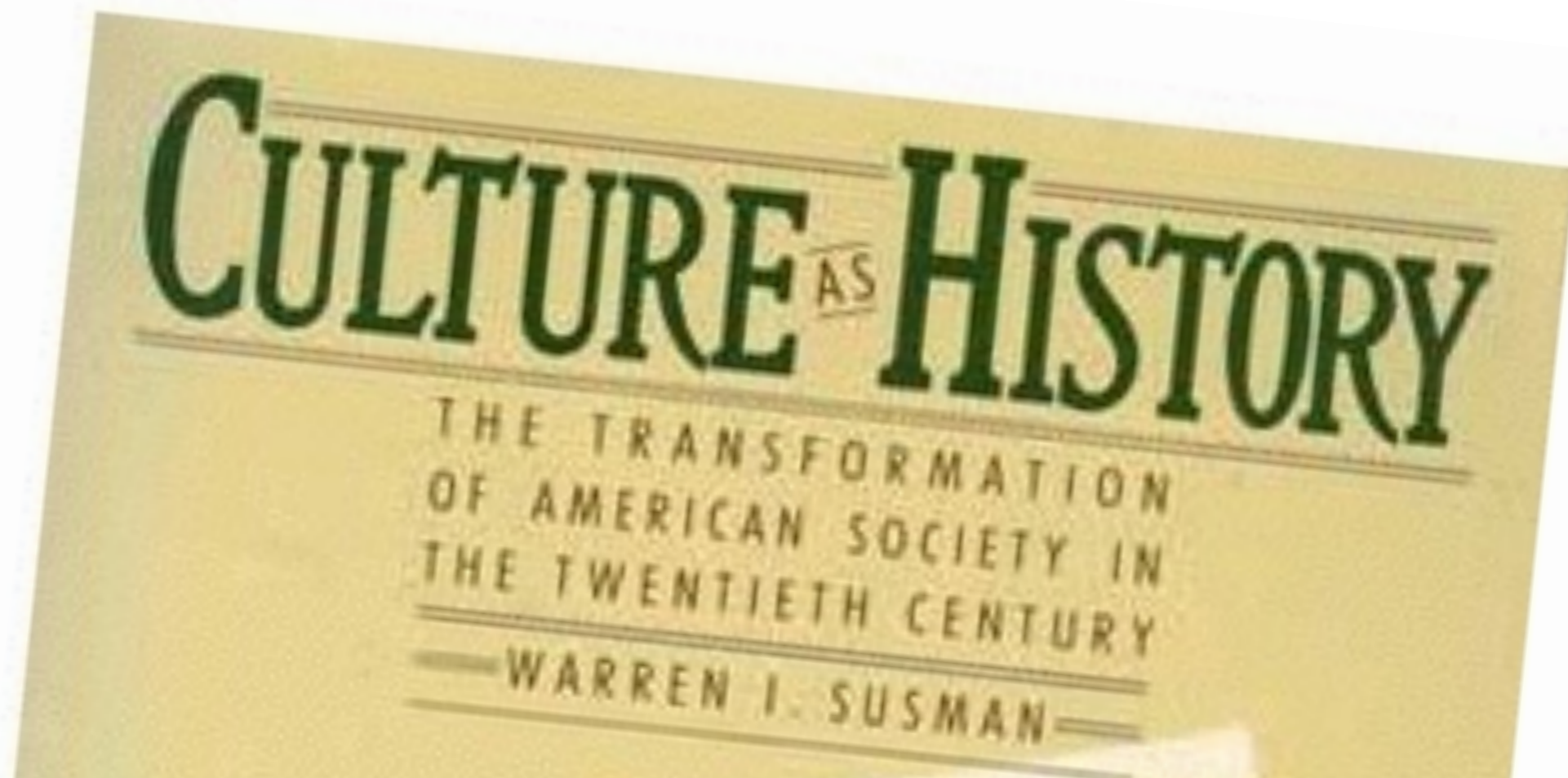


EMERSON

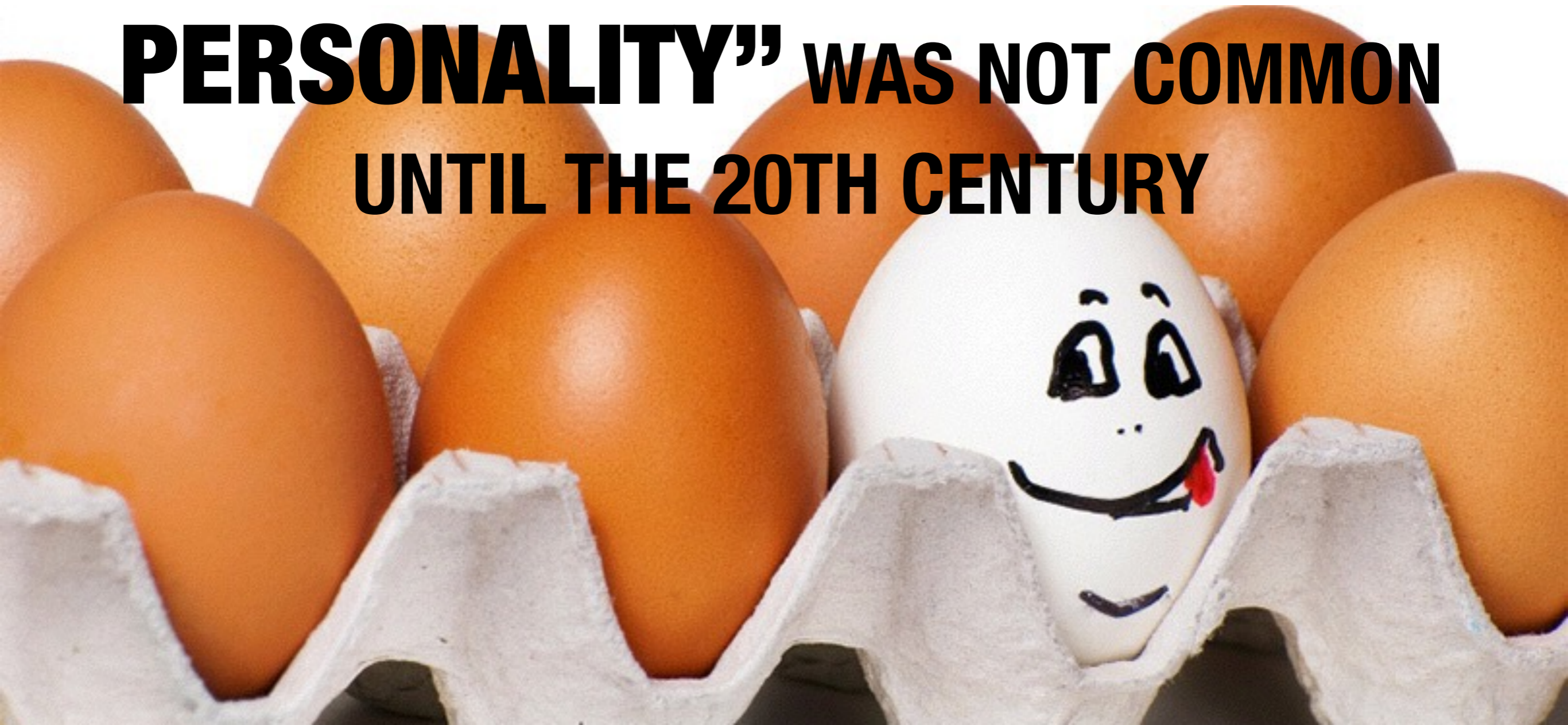
Sears



**AMERICA SHIFTED FROM A CULTURE
OF CHARACTER TO A CULTURE OF
PERSONALITY ACCORDING TO
CULTURAL HISTORIAN WARREN SUSMAN**



**THE WORD PERSONALITY DID NOT
EXIST IN ENGLISH UNTIL THE 18TH CENTURY
AND THE NOTION OF “HAVING A GOOD
PERSONALITY” WAS NOT COMMON
UNTIL THE 20TH CENTURY**



**ACCORDING TO SUSMAN, THIS CULTURE
OF PERSONALITY REQUIRED “EVERY
AMERICAN TO BECOME A
PERFORMING SELF”**

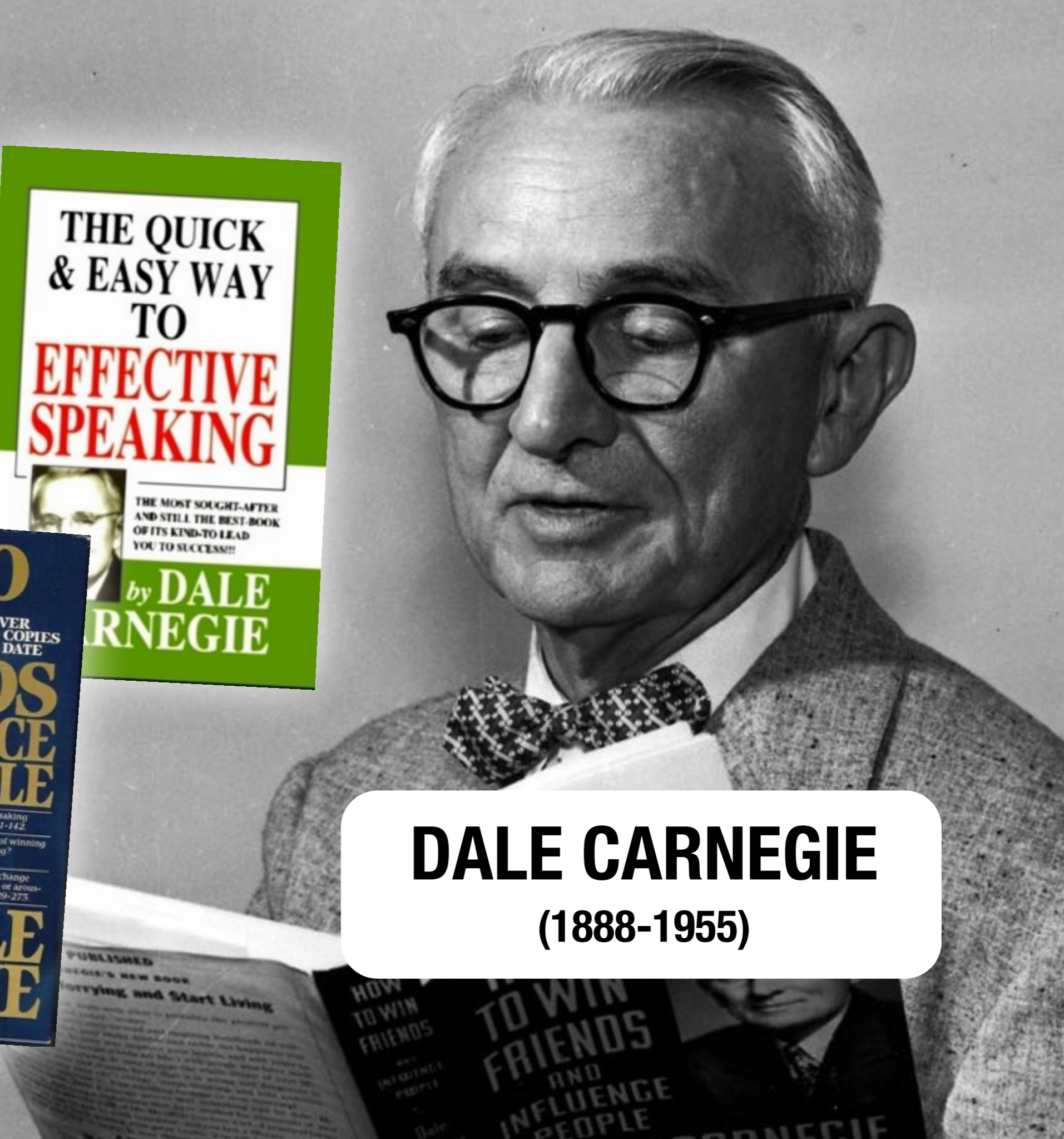
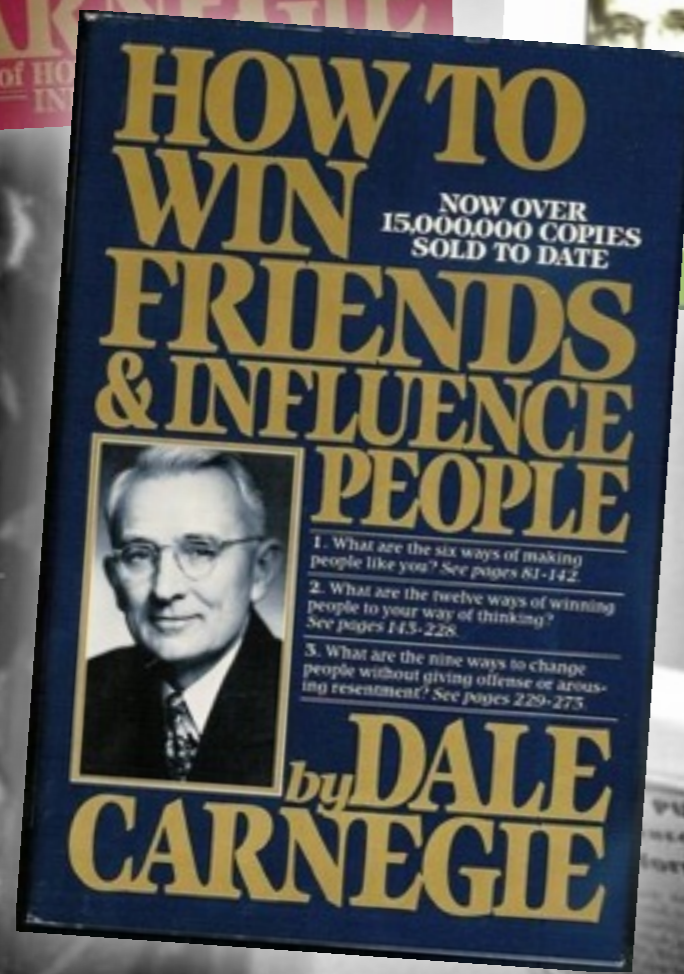
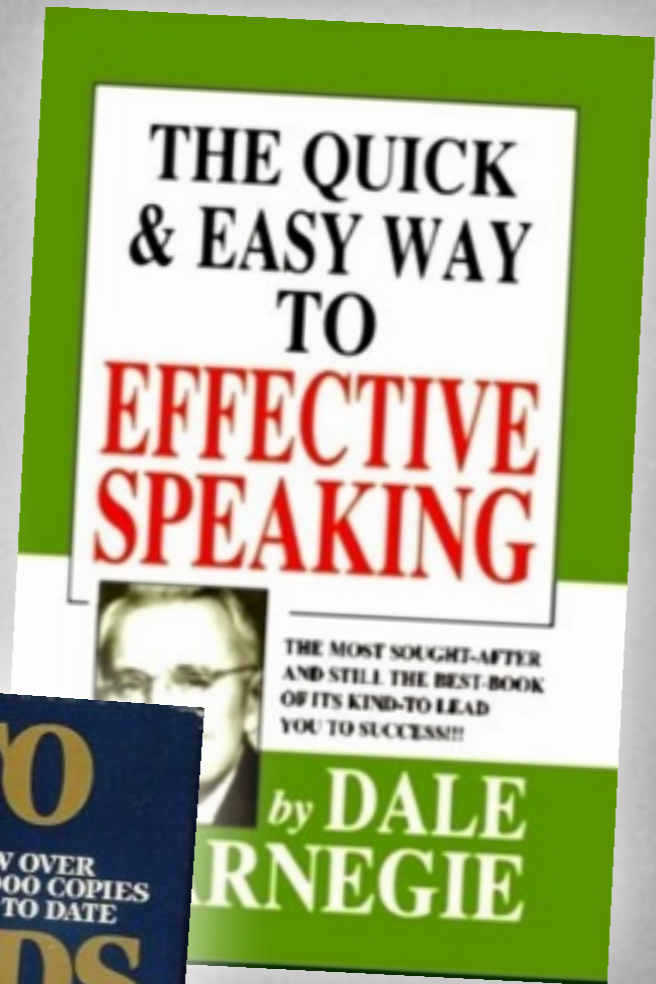
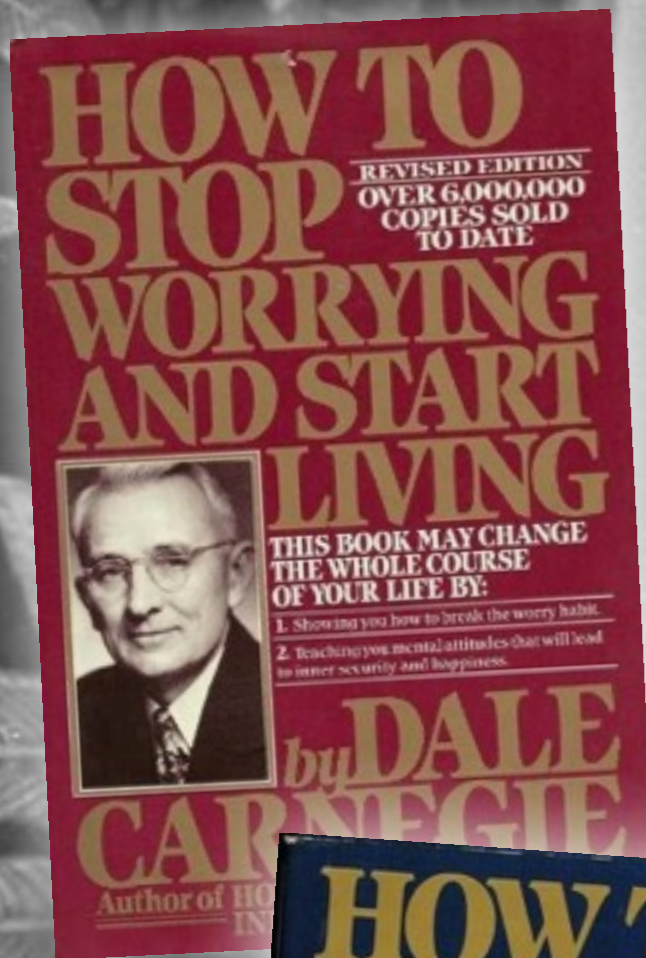


CULTURE OF CHARACTER

- 1. CITIZENSHIP**
- 2. DUTY**
- 3. WORK**
- 4. HONOR**
- 5. REPUTATION**
- 6. MORALS**
- 7. MANNERS**
- 8. INTEGRITY**

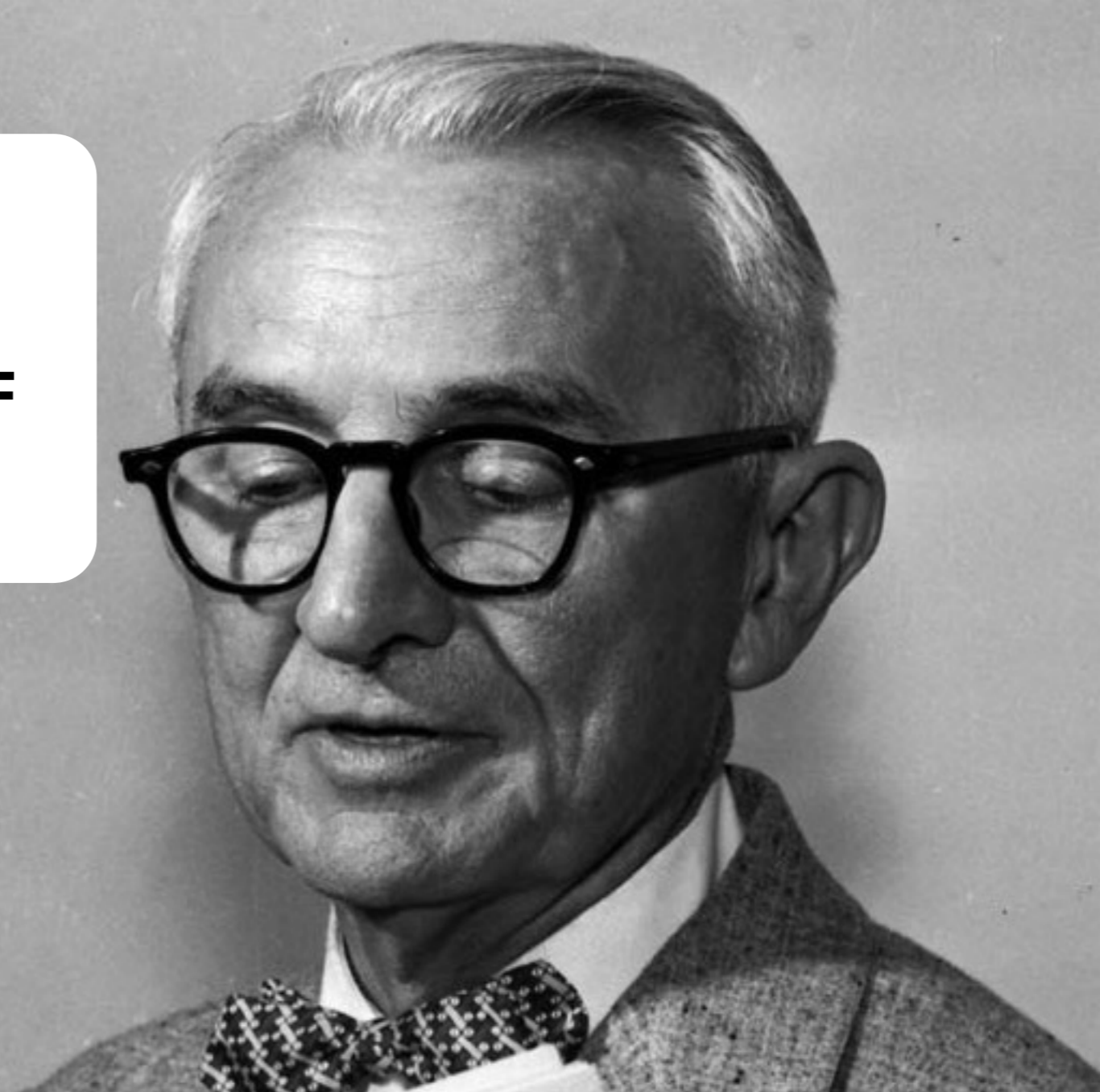
CULTURE OF PERSONALITY

- 1. MAGNETIC**
- 2. FASCINATING**
- 3. STUNNING**
- 4. ATTRACTIVE**
- 5. GLOWING**
- 6. DOMINANT**
- 7. FORCEFUL**
- 8. ENERGETIC**



DALE CARNEGIE
(1888-1955)

“CARNEGIE’S METAMORPHOSIS FROM FARM BOY TO SALESMAN TO PUBLIC-SPEAKING ICON IS ALSO THE STORY OF THE RISE OF THE EXTROVERT IDEAL.”



“CARNEGIE’S JOURNEY REFLECTS A CULTURAL EVOLUTION THAT REACHED A TIPPING POINT AROUND THE TURN OF THE TWENTIETH CENTURY, CHANGING FOREVER WHO WE ARE AND WHOM WE ADMIRE, HOW WE ACT AT JOB INTERVIEWS AND WHAT WE LOOK FOR IN AN EMPLOYEE, HOW WE COURT OUR MATES AND RAISE OUR CHILDREN.”

SUSAN
GAIN



“EVEN BUSINESSES THAT EMPLOY MANY ARTISTS, DESIGNERS, AND OTHER IMAGINATIVE TYPES OFTEN DISPLAY A PREFERENCE FOR EXTROVERSION.”

“ ‘WE WANT TO ATTRACT CREATIVE PEOPLE,’ THE DIRECTOR OF HUMAN RESOURCES AT A MAJOR MEDIA COMPANY TOLD ME. WHEN I ASKED WHAT SHE MEANT BY ‘CREATIVE,’ SHE ANSWERED WITHOUT MISSING A BEAT, ‘YOU HAVE TO BE OUTGOING, FUN, AND JAZZED UP TO WORK HERE.’ ”



SUSAN
GAIN

“IF WE ASSUME THAT QUIET AND LOUD PEOPLE HAVE ROUGHLY THE SAME NUMBER OF GOOD (AND BAD) IDEAS, THEN WE SHOULD WORRY IF THE LOUDER AND MORE FORCEFUL PEOPLE ALWAYS CARRY THE DAY. THIS WOULD MEAN THAT AN AWFUL LOT OF BAD IDEAS PREVAIL WHILE GOOD ONES GET SQUASHED.”



SUSAN
GAIN

“STUDIES IN GROUP DYNAMICS SUGGEST THAT THIS IS EXACTLY WHAT HAPPENS. WE PERCEIVE TALKERS AS SMARTER THAN QUIET TYPES - EVEN THOUGH GRADE-POINT AVERAGES AND SAT AND INTELLIGENCE TESTS SCORES REVEAL THIS PERCEPTION TO BE INACCURATE.”



**SUSAN
GAIN**

“IN ONE EXPERIMENT IN WHICH TWO STRANGERS MET OVER THE PHONE, THOSE WHO SPOKE MORE WERE CONSIDERED MORE INTELLIGENT, BETTER LOOKING AND MORE LIKABLE. WE ALSO SEE TALKERS AS LEADERS.”

“IT ALSO HELPS TO SPEAK FAST; WE RATE QUICK TALKERS AS MORE CAPABLE AND APPEALING THAN SLOW TALKERS.”



SUSAN
GAIN

“IN ONE STUDY, GROUPS OF COLLEGE STUDENTS WERE ASKED TO SOLVE MATH PROBLEMS TOGETHER AND THEN TO RATE ONE ANOTHER’S INTELLIGENCE AND JUDGEMENT” ...

...“THE STUDENTS WHO SPOKE FIRST AND MOST OFTEN WERE CONSISTENTLY GIVEN THE HIGHEST RATINGS, EVEN THOUGH THEIR SUGGESTIONS (AND MATH SAT SCORES) WERE NO BETTER THAN THOSE OF THE LESS TALKATIVE STUDENTS” ...

...“THESE SAME STUDENTS WERE GIVEN SIMILARLY HIGH RATINGS FOR THEIR CREATIVITY AND ANALYTICAL POWERS DURING A SEPARATE EXERCISE TO DEVELOP A BUSINESS STRATEGY FOR A START-UP COMPANY.”



A SOPHISTICATED
SOCIETY NEEDS BOTH
INTROVERTS AND
EXTROVERTS AND
*NEEDS TO RESPECT
THEM EQUALLY!*

“ONCE IN A WHILE, A NEWSPAPER OR TV PROGRAM RUNS A STORY ABOUT ANIMAL PERSONALITIES, CASTING SHY BEHAVIOR AS UNSEEMLY AND BOLD BEHAVIOR AS ATTRACTIVE AND ADMIRABLE” ...

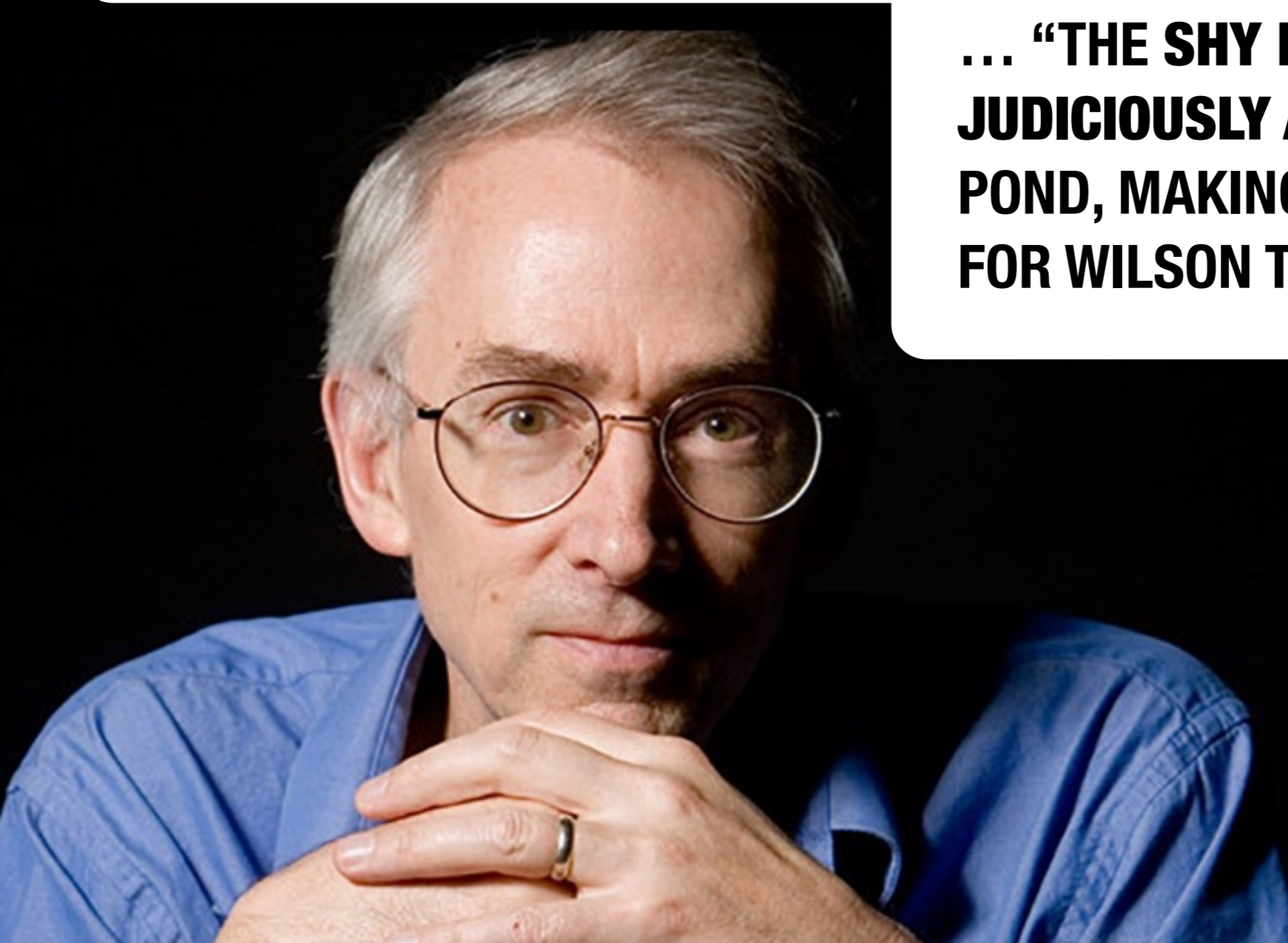
**BUT EVOLUTIONARY PSYCHOLOGIST DAVID SLOAN WILSON
“BELIEVES THAT BOTH TYPES OF ANIMALS EXIST BECAUSE THEY
HAVE RADICALLY DIFFERENT SURVIVAL STRATEGIES, EACH OF
WHICH PAYS OFF DIFFERENTLY AND AT DIFFERENT TIMES.”**



**DAVID
SLOAN
WILSON**

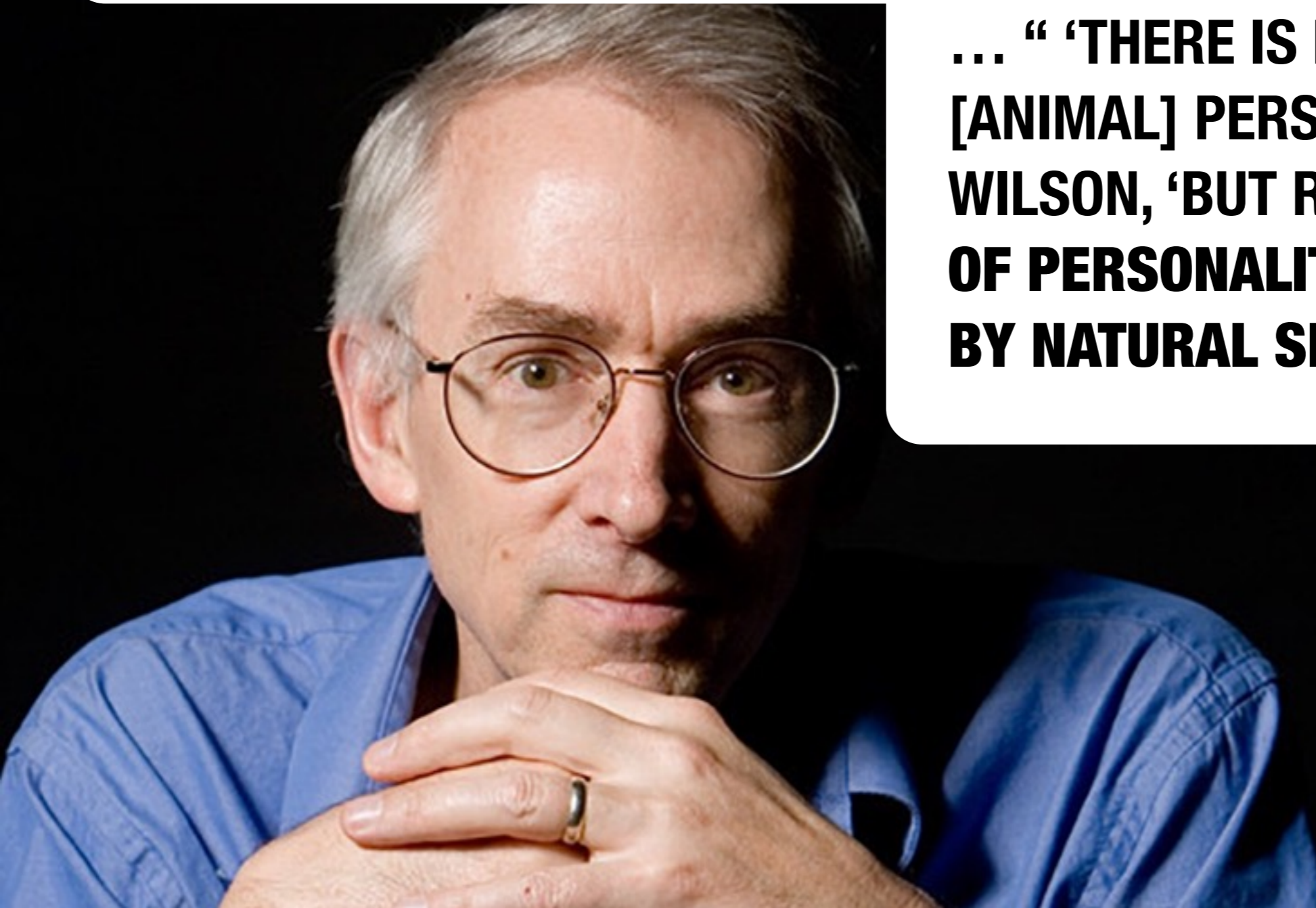
“WHEN WILSON DROPPED METAL TRAPS INTO A POND FULL OF PUMPKINSEED FISH, THE BOLD FISH COULDN’T HELP BUT INVESTIGATE - AND RUSHED HEADLONG INTO WILSON’S TRAPS” ...

... “THE SHY FISH HOVERED JUDICIOUSLY AT THE EDGE OF THE POND, MAKING IT IMPOSSIBLE FOR WILSON TO CATCH THEM” ...



**DAVID
SLOAN
WILSON**

...“AFTER WILSON SUCCEEDED IN TRAPPING BOTH TYPES OF FISH, THE BOLD FISH ACCLIMATED QUICKLY TO THEIR NEW ENVIRONMENT AND STARTED EATING A FULL FIVE DAYS EARLIER THAN DID THEIR SHY BRETHREN”...



... “ ‘THERE IS NO SINGLE BEST... [ANIMAL] PERSONALITY,’ WRITES WILSON, ‘BUT RATHER A DIVERSITY OF PERSONALITIES MAINTAINED BY NATURAL SELECTION.’ ”

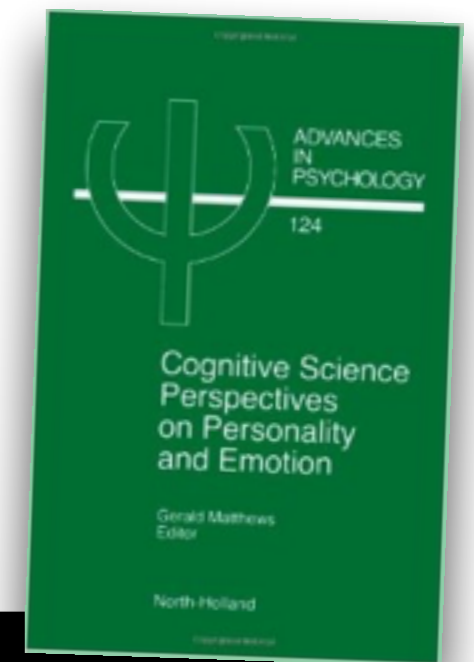
**DAVID
SLOAN
WILSON**

AS REGARDS PROBLEM SOLVING IN PARTICULAR, INTROVERTS HAVE “BEEN SHOWN TO EXCEL AT SOMETHING PSYCHOLOGISTS CALL ‘INSIGHTFUL PROBLEM SOLVING’ .”

“INTROVERTS ARE NOT SMARTER THAN EXTROVERTS. ACCORDING TO IQ SCORES, THE TWO TYPES ARE EQUALLY INTELLIGENT” ...

... “ON MANY KINDS OF TASKS, PARTICULARLY THOSE PERFORMED UNDER TIME OR SOCIAL PRESSURE OR IN SOLVING MULTITASKING, EXTROVERTS DO BETTER.”

“BUT INTROVERTS SEEM TO THINK MORE CAREFULLY THAN EXTROVERTS, AS THE PSYCHOLOGIST GERALD MATTHEWS DESCRIBES IN HIS WORK” ...



...“EXTROVERTS ARE MORE LIKELY TO TAKE A QUICK-AND-DIRTY APPROACH TO PROBLEM-SOLVING, TRADING ACCURACY FOR SPEED, MAKING INCREASING NUMBER OF MISTAKES AS THEY GO, AND ABANDONING SHIP ALTOGETHER WHEN THE PROBLEM SEEMS TOO DIFFICULT OR FRUSTRATING” ...

...“INTROVERTS THINK BEFORE THEY ACT, DIGEST INFORMATION THOROUGHLY, STAY ON TASK LONGER, GIVE UP LESS EASILY, AND WORK MORE ACCURATELY”

**“IT’S AS IF
EXTROVERTS ARE
SEEING ‘WHAT IS’
WHILE THEIR
INTROVERTED
PEERS ARE ASKING
‘WHAT IF.’ ”**



**BUT ACCORDING TO SUSAN CAIN,
“GROUP BRAINSTORMING DOESN'T
ACTUALLY WORK.”**

48

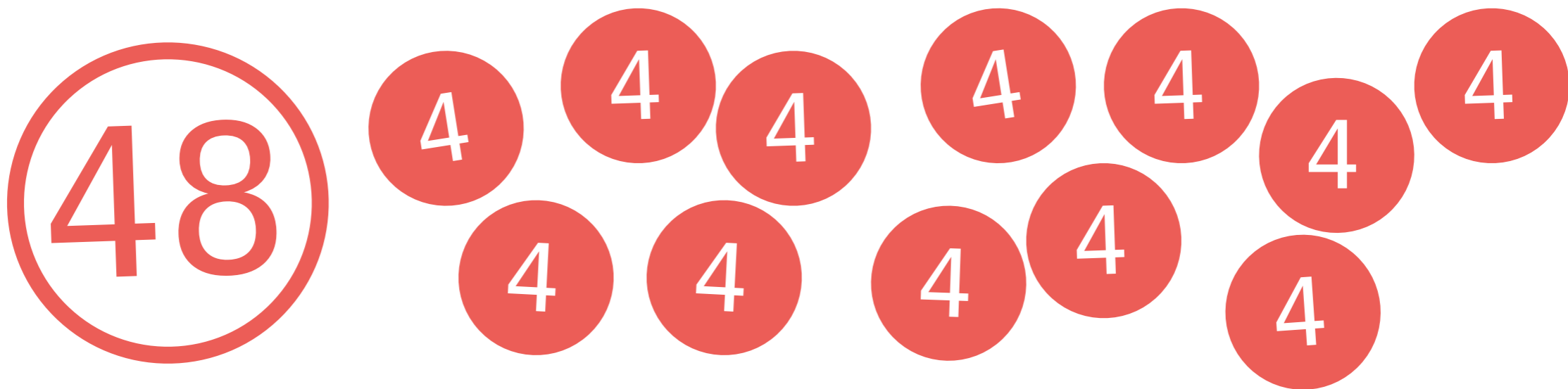
“MARVIN DUNNETTE, A PSYCHOLOGIST PROFESSOR AT THE UNIVERSITY OF MINNESOTA, GATHERED FORTY-EIGHT RESEARCH SCIENTISTS AND FORTY-EIGHT ADVERTISING EXECUTIVES AND ASKED THEM TO PARTICIPATE IN BOTH SOLITARY AND GROUP BRAINSTORMING SESSIONS”...

48

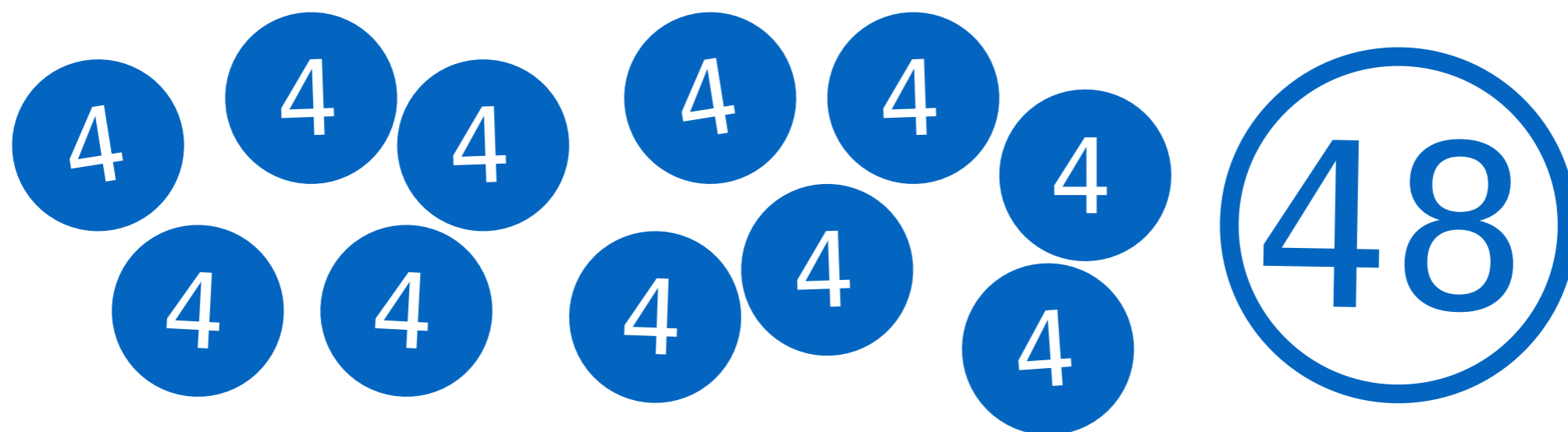
48

...“DUNNETTE WAS CONFIDENT THAT THE EXECUTIVES WOULD BENEFIT FROM THE GROUP PROCESS. HE WAS LESS SURE THAT THE RESEARCH SCIENTISTS, WHOM HE CONSIDERED MORE INTROVERTED, WOULD PROFIT FROM GROUP WORK”...

48

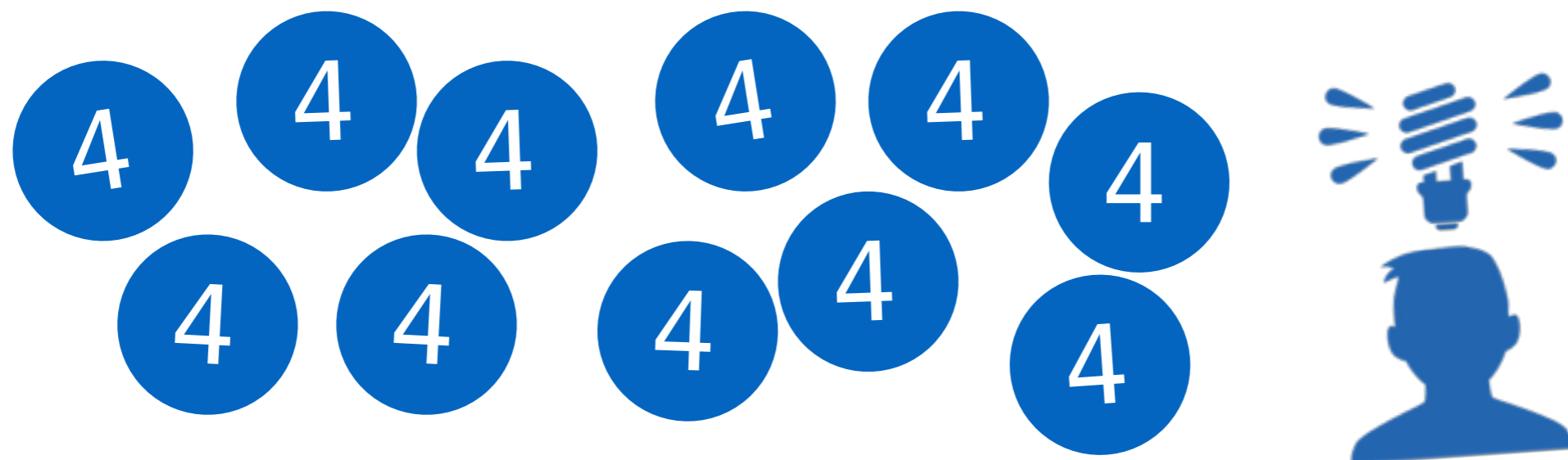


...“DUNNETTE DIVIDED EACH SET OF FORTY-EIGHT... INTO TWELVE GROUPS OF FOUR. EACH FOURSOME WAS GIVEN A PROBLEM TO BRAINSTORM...EVERYONE WAS ALSO GIVEN A SIMILAR PROBLEM TO BRAINSTORM ON THEIR OWN”...





...“THE RESULTS WERE UNAMBIGUOUS. THE MEN IN TWENTY-THREE OF THE TWENTY-FOUR GROUPS PRODUCED MORE IDEAS WHEN THEY WORKED ON THEIR OWN THAN WHEN THEY WORKED AS A GROUP. THEY ALSO PRODUCED IDEAS OF EQUAL OR HIGHER QUALITY WHEN WORKING INDIVIDUALLY.”





“THE ‘EVIDENCE FROM SCIENCE SUGGESTS THAT BUSINESS PEOPLE MUST BE INSANE TO USE BRAINSTORMING GROUPS,’ WRITES THE ORGANIZATIONAL PSYCHOLOGIST ADRIAN FURNHAM. ‘IF YOU HAVE TALENTED AND MOTIVATED PEOPLE, THEY SHOULD BE ENCOURAGED TO WORK ALONE WHEN CREATIVITY OR EFFICIENCY IS THE HIGHEST PRIORITY.’”



**IS THE TENDENCY
TOWARD INTROVERSION
OR EXTROVERSION
HARD-WIRED INTO US
FROM BIRTH?**

A photograph of Jerome Kagan, an elderly man with glasses, wearing a blue sweater over a light blue shirt and a dark tie. He is standing in a classroom, with a blackboard behind him that has colorful letters (S, F, M, 3, 1) attached to it. To his right, there are yellow papers pinned to a wall. In the background, there are green lockers and a hallway.

**ONE OF THE GREAT
DEVELOPMENTAL
PSYCHOLOGISTS OF
THE RECENT ERA**

JEROME KAGAN
(HARVARD PROFESSOR)

“IN A SERIES OF LONGITUDINAL STUDIES HE FOLLOWED CHILDREN FROM INFANCY THROUGH ADOLESCENCE, DOCUMENTING THEIR PHYSIOLOGIES AND PERSONALITIES ALONG THE WAY.”

KAGAN EXPOSED A GROUP OF 4-MONTH-OLDS TO A CAREFULLY CHOSEN SET OF NEW EXPERIENCES - LOUD VOICES AND BALLOONS POPPING COMBINED WITH COLORFUL MOBILES AND STRONG SCENTS LIKE ALCOHOL



**JEROME
KAGAN**

**ABOUT 20% CRIED LUSTILY AND
PUMPED THEIR ARMS AND LEGS
HIGH-REACTIVITY GROUP**

**ABOUT 40% STAYED QUIET AND PLACID
LOW-REACTIVITY GROUP**

**THOSE IN THE HIGH-REACTIVITY GROUP WERE MORE LIKELY TO
BECOME INTROVERTS WITH SERIOUS, CAREFUL PERSONALITIES**

**THOSE IN THE LOW-REACTIVITY GROUP WERE MORE LIKELY TO
BECOME EXTROVERTS WITH RELAXED, CONFIDENT PERSONALITIES**

**JEROME
KAGAN**

A photograph of Jerome Kagan, an elderly man with glasses, wearing a dark blue sweater over a light blue shirt and a dark tie. He is standing in a classroom or office setting. Behind him is a dark grey wall with colorful letters (S, E, O, A) and a yellow wall with papers pinned to it. To the right, there are glass display cases containing various items.

HIGH-REACTIVITY CHILDREN:

- **PAY ATTENTION TO PEOPLE AND THINGS**
- **THINK AND FEEL DEEPLY**

“HIGH-REACTIVE TYPES ARE LIKE ORCHIDS: THEY WILT EASILY, BUT UNDER THE RIGHT CONDITIONS CAN GROW STRONG AND MAGNIFICENT”...

**JEROME
KAGAN**

...“ORCHID CHILDREN ARE MORE STRONGLY AFFECTED BY ALL EXPERIENCES, BOTH POSITIVE AND NEGATIVE” ...

...“THESE KIDS ARE ESPECIALLY VULNERABLE TO CHALLENGES LIKE MARITAL TENSION, A PARENT’S DEATH, OR ABUSE. THEY’RE MORE LIKELY THAN THEIR PEERS TO REACT TO THESE EVENTS WITH DEPRESSION, ANXIETY, AND SHYNESS” ...

**JEROME
KAGAN**

...“ORCHID CHILDREN ARE MORE STRONGLY AFFECTED BY ALL EXPERIENCES, BOTH POSITIVE AND NEGATIVE” ...

...“HIGH-REACTIVE KIDS WHO ENJOY GOOD PARENTING, CHILD CARE, AND A STABLE HOME ENVIRONMENT TEND TO HAVE FEWER EMOTIONAL PROBLEMS AND MORE SOCIAL SKILLS THEIR LOWER-REACTIVE PEERS. OFTEN THEY’RE EXCEEDINGLY EMPHATIC, CARING AND COOPERATIVE” ...

**JEROME
KAGAN**

...“ORCHID CHILDREN ARE MORE STRONGLY AFFECTED BY ALL EXPERIENCES, BOTH POSITIVE AND NEGATIVE” ...

...“THEY ARE KIND, CONSCIENTIOUS, AND EASILY DISTURBED BY CRUELTY, INJUSTICE, AND IRRESPONSIBILITY” ...

**JEROME
KAGAN**

...“ORCHID CHILDREN ARE MORE STRONGLY AFFECTED BY ALL EXPERIENCES, BOTH POSITIVE AND NEGATIVE” ...

...“EVERYTHING ABOUT THESE KIDS (HIGH-REACTIVE) WAS DIFFERENT. THEIR EYES DILATED MORE WIDELY WHEN THEY WERE SOLVING PROBLEMS, THEIR VOCAL CHORDS BECAME MORE TENSE WHILE UTTERING WORDS, THEIR HEART RATE PATTERNS WERE UNIQUE” ...

**JEROME
KAGAN**

...“ORCHID CHILDREN ARE MORE STRONGLY AFFECTED BY ALL EXPERIENCES, BOTH POSITIVE AND NEGATIVE” ...

A photograph of Jerome Kagan, an elderly man with glasses, wearing a blue sweater over a light blue shirt and a dark tie. He is standing in a classroom, with a dark grey wall behind him decorated with colorful magnetic letters (O, E, A, A, M). To the right, there is a yellow wall and a glass door. The lighting is bright and indoor.

**“THE FOOTPRINT OF A HIGH- OR LOW-
REACTIVE TEMPERAMENT NEVER
DISAPPEARED IN ADULTHOOD.”**

**JEROME
KAGAN**

**INTROVERTS SALIVATE MORE
THAN EXTROVERTS WHEN
THEY TASTE LEMON JUICE**

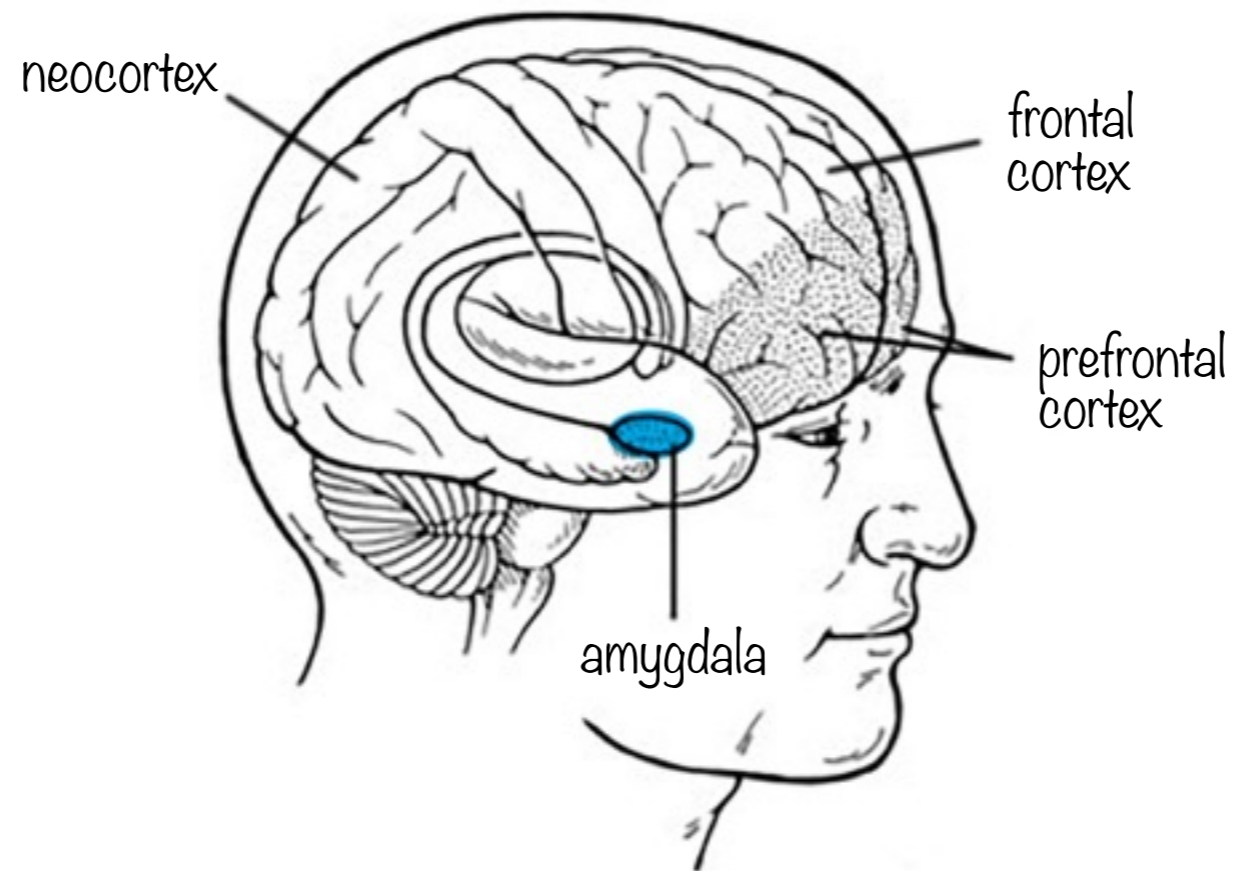


**WHEN ASKED TO ADJUST SOUND
LEVELS FOR COMFORTABLE
LISTENING, INTROVERTS CHOOSE 17
DECIBELS LOWER THAN EXTROVERTS**

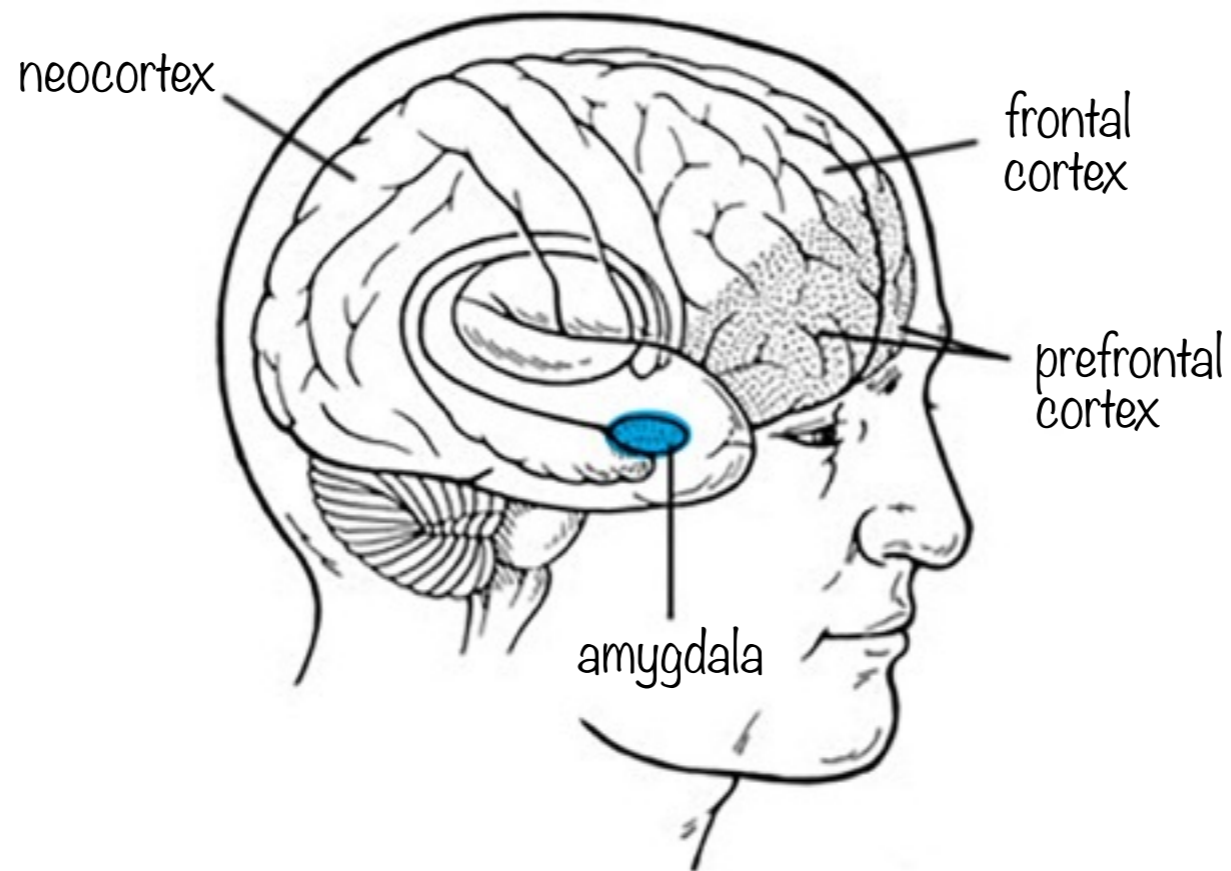
**INTROVERTS SWEAT MORE
THAN EXTROVERTS**



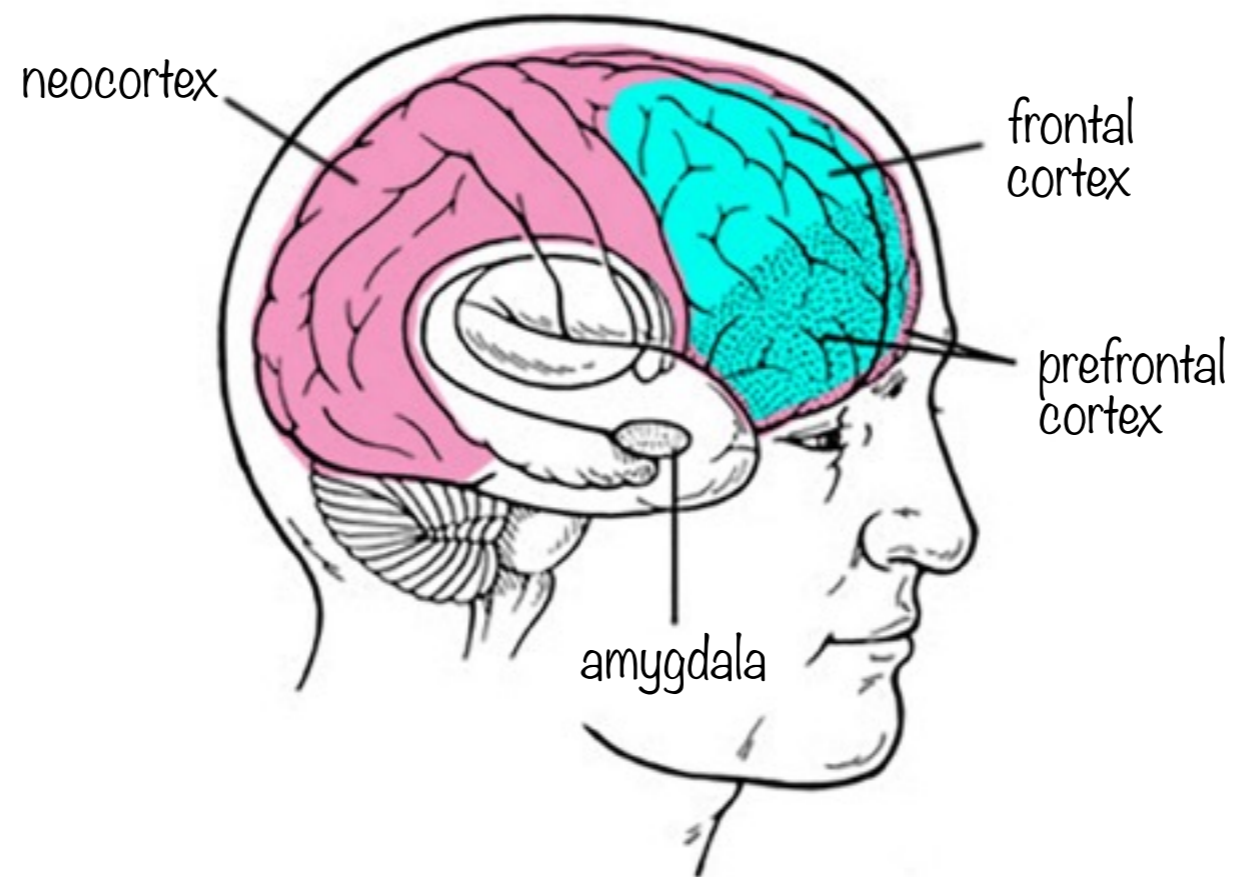
**THE TENDENCY TOWARD HIGH REACTIVITY OR LOW
REACTIVITY IS KNOWN TO RESIDE IN THE
PORTION OF THE BRAIN CALLED
THE AMYGDALA**



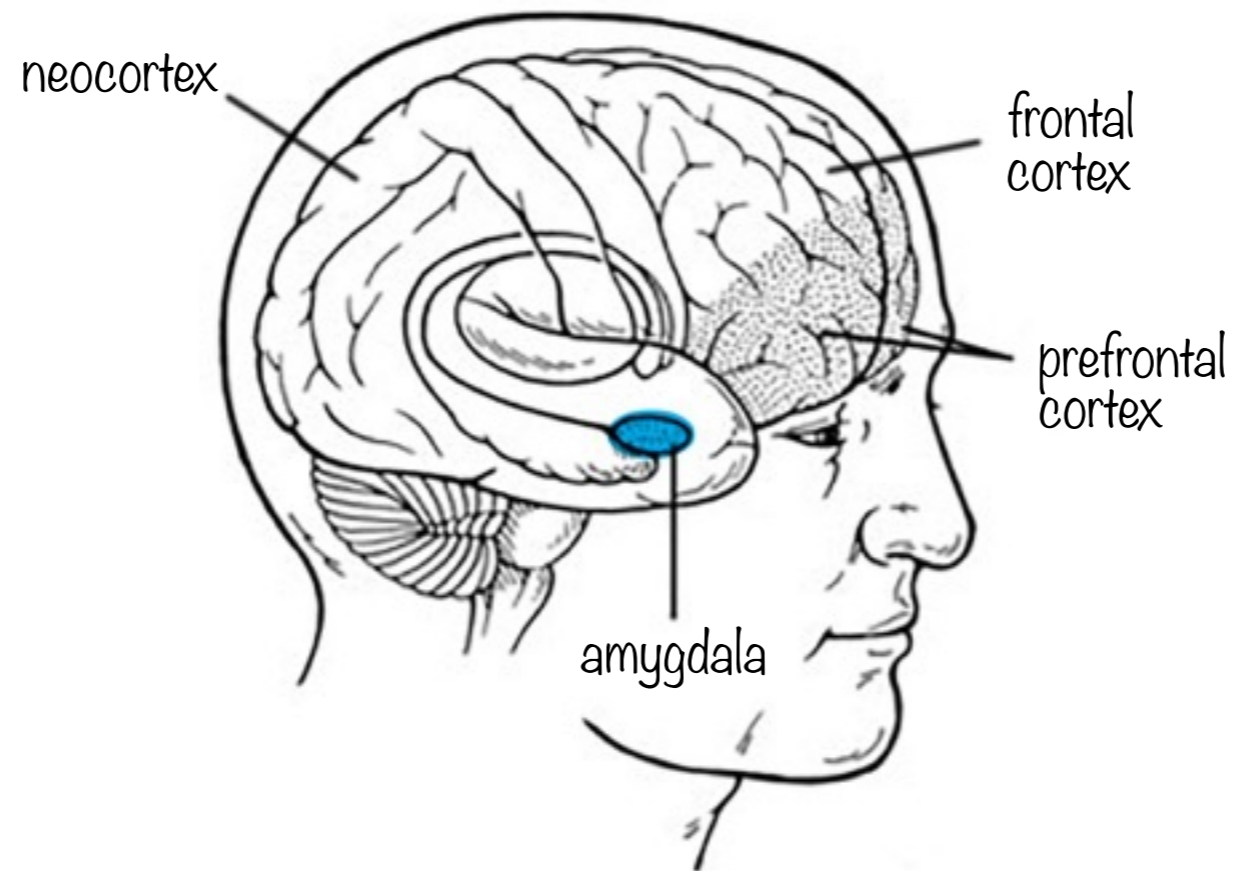
**“OUR INBORN TEMPERAMENTS
INFLUENCE US REGARDLESS OF THE LIVES
WE LEAD, BUT WE CAN STRETCH OUR
PERSONALITIES UP TO A POINT.”**



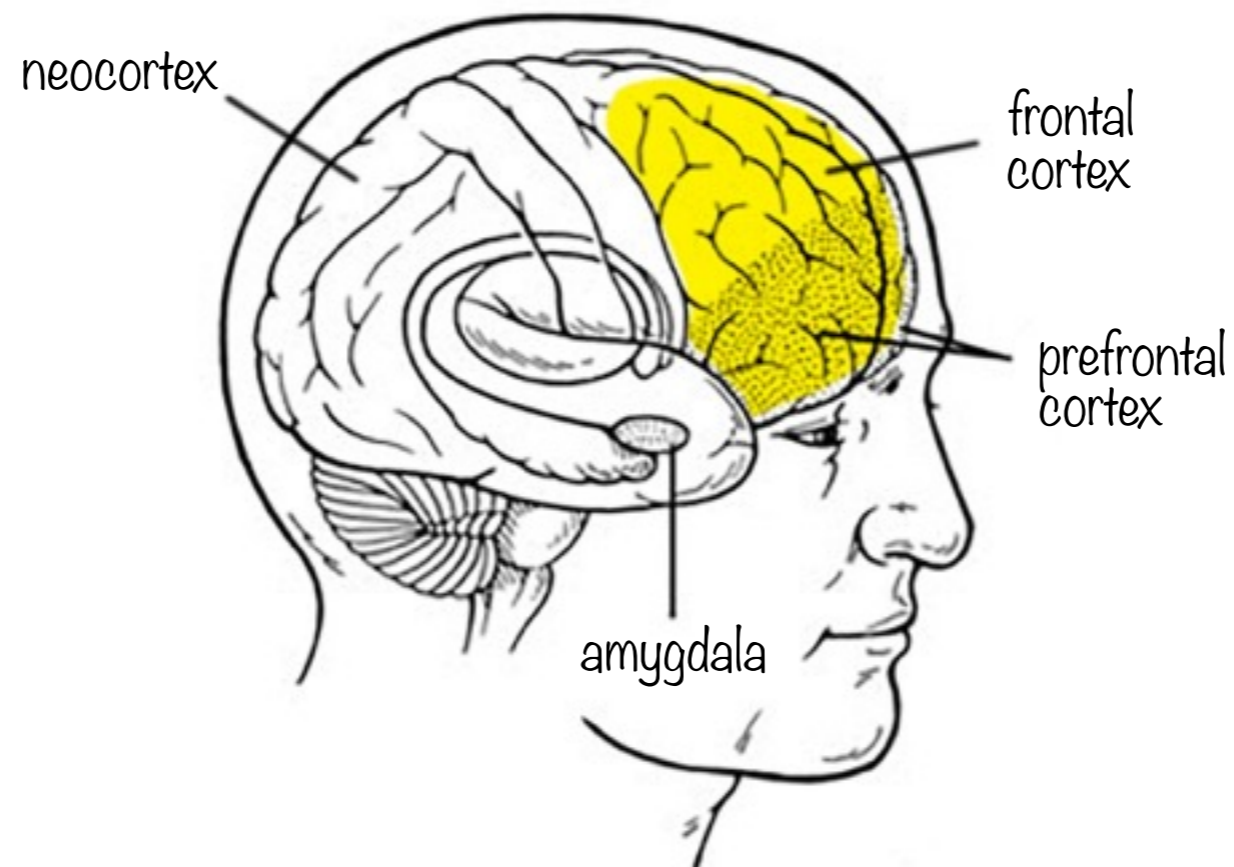
“THE NEOCORTEX, AND PARTICULARLY THE FRONTAL CORTEX CAN BE FOCUSED TO TEMPER REACTIONS IN THE AMYGDALA.”



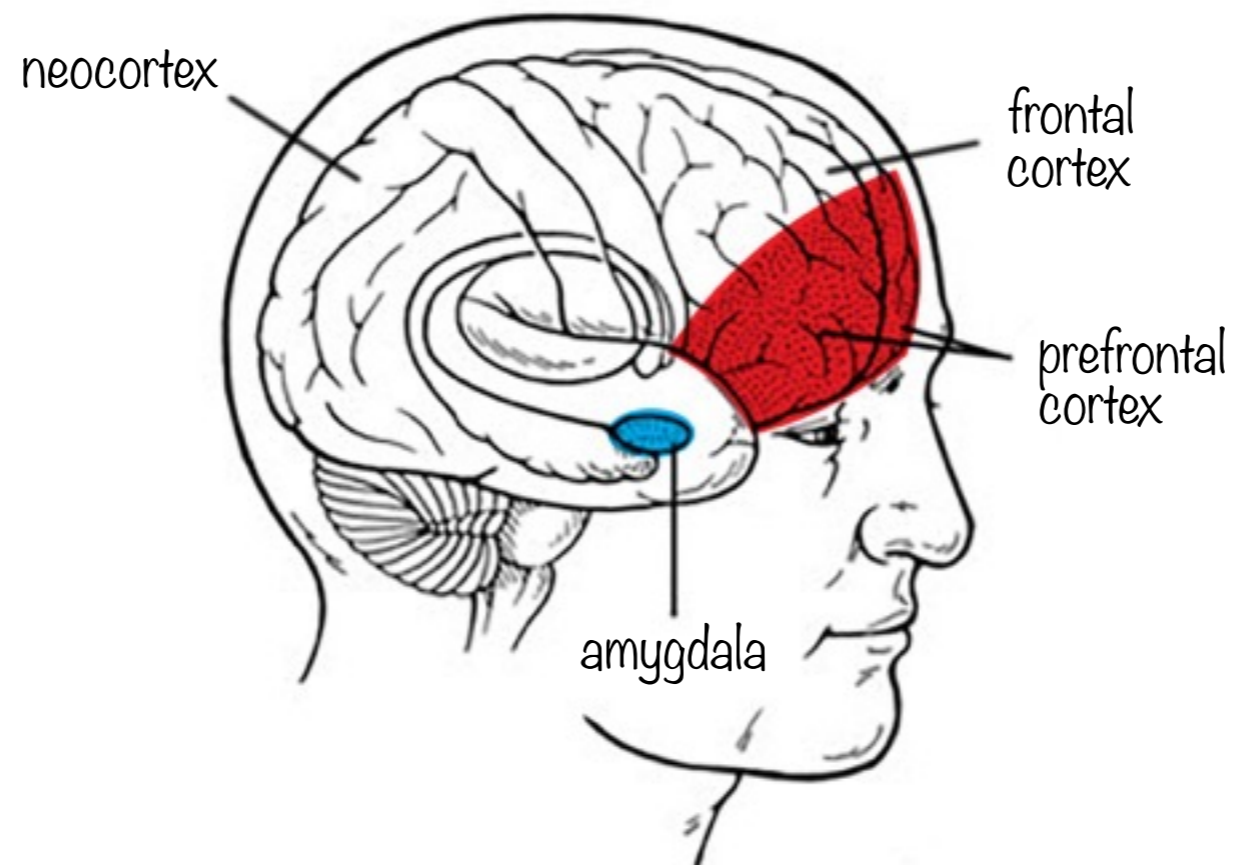
“IF YOU WERE A HIGH-REACTIVE BABY, THEN YOUR AMYGDALA MAY, FOR THE REST OF YOUR LIFE, GO A BIT WILD EVERY TIME YOU INTRODUCE YOURSELF TO A STRANGER AT A COCKTAIL PARTY.”



“BUT IF YOU FEEL RELATIVELY SKILLED IN COMPANY, THAT’S PARTLY BECAUSE YOUR FRONTAL CORTEX IS THERE TO TELL YOU ‘CALM DOWN, EXTEND A HANDSHAKE, AND SMILE.’ ”



...“IN FACT, A RECENT FMRI STUDY SHOWS THAT WHEN PEOPLE USE SELF-TALK TO REASSESS UPSETTING SITUATIONS, ACTIVITY IN THEIR PREFRONTAL CORTEX INCREASES IN AN AMOUNT CORRELATED WITH A DECREASE OF ACTIVITY IN THEIR AMYGDALA.”

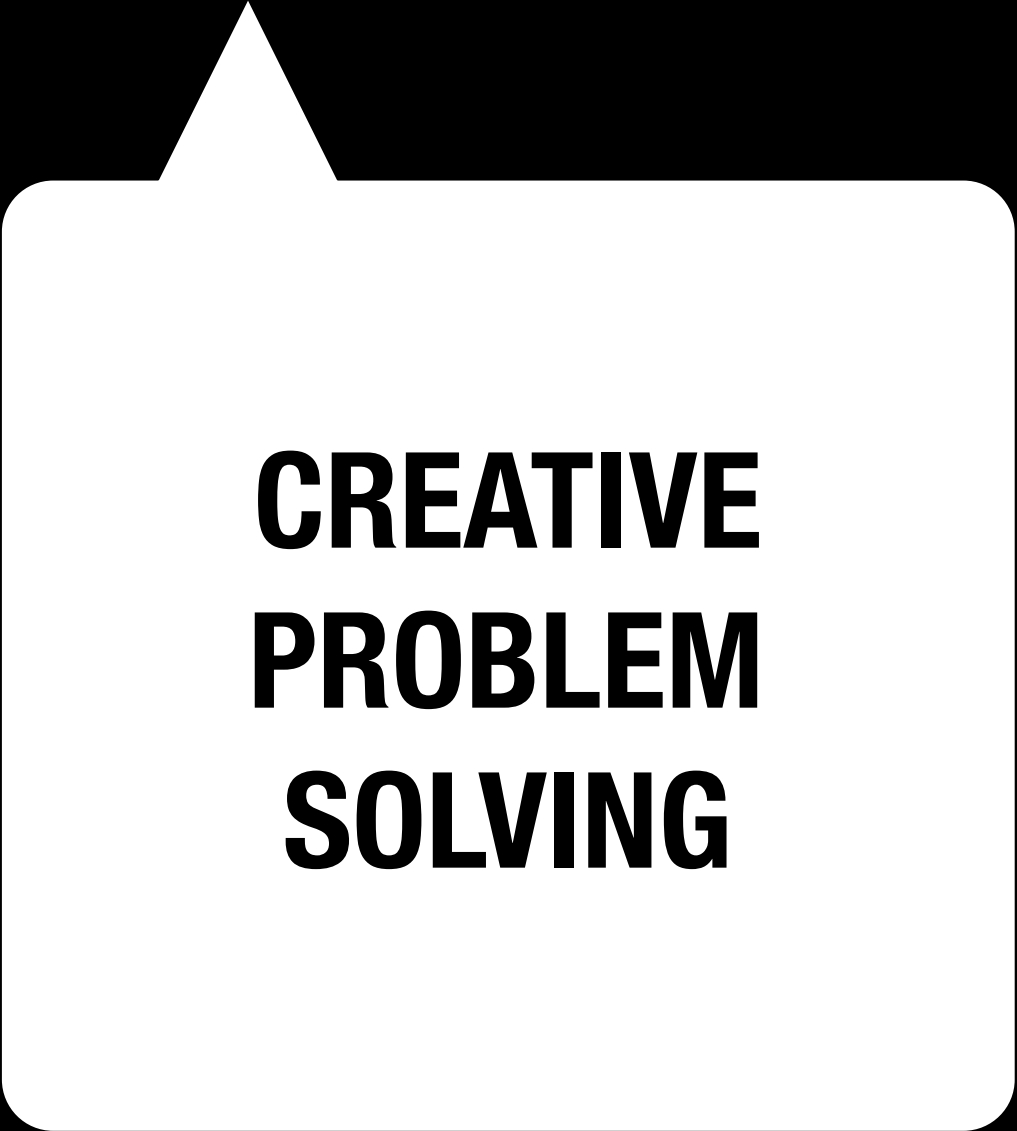


ARE YOU AN INTROVERT OR AN EXTROVERT?

HOW CAN YOU USE THE INHERENT STRENGTHS OF YOUR TEMPERAMENT TO MAKE YOU A BETTER PROBLEM SOLVER?

HOW MIGHT YOU ADJUST YOUR INHERENT TEMPERAMENT TO GET JUST THE RESULTS YOU WANT?

INTROVERTS AND QUIET CREATIVITY



**CREATIVE
PROBLEM
SOLVING**