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How the Emotional Climate Impacts Performance

By George M. Prince

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Independently of the creativity movement, others have demonstrated the benefits of creating positive fields. I have reviewed a number of cases involving field below and added some from my own creativity experiences. I then explore the psychological explanation of why such fields are effective and go on to the findings of recent brain research, which not only reinforce the benefits of positive fields but also throw light on the difficulty of creating them. Finally, I offer some suggestions from my own experience of what can be done to create positive fields. I believe that this should now be the focus of our efforts: to the extent that we are successful, we should get the creativity and innovation we need as a by-product.

Introduction

Creativity practitioners have long been aware that one of the reasons for the effectiveness of their techniques is that they create a climate' (or 'culture' or 'field') which is significantly different from that of normal working life. The term field was derived by Kurt Lewin and states that behavior is determined by the totality of influences on an individual in a given situation (Lewin, 1935). I prefer 'field' to 'climate' and have used it throughout this paper. The climate is a given and there is nothing we can do to change it; we have to adapt to it. 'Field,' as in electro-magnetic field or interpersonal field (as psychologists now refer to it) enlarges the concept to include the changeable factor of emotions. The 'field' is something we can manage, if we have the necessary skills and knowledge.

Alex Osborn (the inventor of brainstorming) demonstrated in the 1930s that by applying the 'suspend judgment' principle, many ideas were generated, because people had been given permission to express ideas they would normally censor. From the 1960s onwards, Synectics extended that protection to the convergent phase of idea development, by introducing a developmental judgment technique (Itemized Response) and other communication and behavioral ground rules. These approaches demonstrate efforts at developing positive field.

The Case Histories

The Hawthorne Effect

The first hint that field was making a difference came out of an elaborate series of experiments run in the 1920s by psychologists at a Western Electric Plant, the Hawthorne Works, near Chicago. The purpose was to study the effect of changing 'conditions' for the workers. The first experiment involved improving the lighting. Performance improved. The workers were given more frequent breaks and performance improved again. A number of variations in working conditions were tried, and each improved performance. Then the experimenters changed all the conditions back to what they were when the experiments started. Performance continued to improve.

Many other experiments were tried over the next ten years and the results came to be known as 'The Hawthorne Effect.' It 'suggested that any workplace change, such as a research study, makes people feel more important and thereby improves their performance' (Mayo, *Encyclopedia Britannica*, 1920). The attention of the research observers made the field more positive, the workers felt more meaningful and engaged more of their potential.

Hawthorne Experiment 2: Interpersonal Field on a Production Line

Over 50 years later, I had the opportunity to train a graduate trainee from the same Hawthorne plant in the Synectics problem-solving and field / relationship process. On his return, he was given the assignment of increasing productivity on the hundreds of small production lines repairing electronic devices. The lines were averaging 50 per cent of 'standard,' with a high proportion of rejections.

Twelve lines were selected for an experiment. The eight women on each line were taught the problem-solving and field / relationship management process, and given responsibility for improving their productivity.

In the plant hierarchy there was one supervisor for every four lines. The women's first request was that their supervisors be removed. Their criticism and contempt had created a toxic field. Their second request was that the quality-control men be barred from personally returning rejections. The QC men made discounting comments when returning rejects and the resulting field was destructive. Then the teams focused on their own performance and interactions and within three months the experimental lines had reduced rejections to virtually zero and increased production by 300 per cent – substantially over standard.

Southwest Airlines

A Texas company with 18,000 employees makes the interpersonal field of their company a primary concern. They call it their '**culture**.' President Herb Kelleher believes that love really does make the business world go round, and that laughter is really the best medicine for employee loyalty.

'Kelleher and other members of the senior management team believe that the relationship between Southwest and its people is the key to the airline's success.' (Boa!, 1997).

When strapped for cash in the early days, rather than sell one of their four planes or letting people go, employees said they could cut turnaround time from the industry standard one hour to about 15 minutes and they did, establishing a Southwest tradition that no other airline has ever approached. Southwest employs just over 86 people per plane in an industry where the average is over 200.

Southwest has been profitable every year since 1972, including 1991 and 1992, when every other major airline lost money. U.S. \$1,000 invested in the company in 1971 would be worth more than U.S. \$250,000 today.

'Herb Kelleher has done a remarkable job of crafting a unique culture [field] at Southwest Airlines through a combination of humor, altruism, concern for other people, and good old-fashioned straight talk; says James Campbell Quick, a professor of management at the University of Texas.

Three Other Companies

In *Maverick*, Ricardo Semler, a Brazilian CEO, reports on how he systematically increased respect and responsibility by giving more and more power and control to the rank and file in his company. He created a field of mutual respect. His company grew 600 per cent in the first ten years of his continuing experiment (Semler, 1993).

In *The New Partnership*, Tom Melohn (1994) gave himself the title of 'Head Sweeper' and tells how he methodically changed the field of the small manufacturing plant he purchased, from the traditional hierarchy to a system of high authority, respect and responsibility for each employee. His results are

impressive: Sales up by 28 per cent each year, pre-tax profit up 2,400 per cent, productivity up 480 per cent.

A third company's experience is described in a detailed application for the 'George Land World Class Innovator Award in 1997,' which they won (Rodin, 1997). Marshall Industries was, in 1990, a large service company distributing industrial electronics. In that year Rob Rodin, the CEO, read an article by Dr. Deming about his 14 points. At the time, his company was organized and operated to foster internal a primary concern – competition. 'We paid everybody on an M.B.O. incentive system. We put up lists and rated our people: who was number one, who was number 10 and so forth.'

They created and reinforced a field that brought out individual initiative to do one's best for him or herself. 'The MBO system encouraged and caused employees to distort the system in order to obtain personal and financial gain.' But Rodin was so impressed with Deming's diametrically opposed philosophy that he became a Deming student, went to Deming courses, and consulted with anyone who had information about this different way of operating (Deming, 1986).

Deming's 14 points for transforming management rest on a single imperative, one that is totally alien to all-American love of competition and winning at all costs: Learn to live without enemies... getting a product to market requires the heroic cooperation of a lot of different people and departments. Treat them as valued friends rather than adversaries... a permanent and satisfactory relationship will save a ton of money in the long run.

Deming is most lauded for point number 8: Drive out fear... Deming alone, among all the management wizards, correctly identifies fear as the basis of all barriers to improving a company (Nancy K. Austin, 1991).

Rodin then began taking the actions that created a field that brought out a very different kind of behavior. 'The fundamental and scary change that we made over a series of years was to take every one of our individual departments off their own M.B.O., off their own incentive programs and out of the commission environment. We put every single person, all 1,360 at Marshall Industries, solely on salary and profit sharing. The amazing thing was that, on the day we took all of management (a thousand people who had been preparing for the change for one year) off the old system, we immediately received new levels of cooperation.

Through this period our sales grew from \$530 million to \$1 billion. Our expenses are down, our days outstanding are down, our (staff) turnover went down by 50%, and our earnings doubled. More importantly, intangibles are up: customer satisfaction, morale, teamwork, efficiency, productivity, consistency and relationships.

Two Teams at Union Carbide

In 1981, I participated in an experiment to test the impact of fields at Union Carbide. Two teams of equal talent were formed. One received training in Brainstorming, an idea-getting system. The other was trained in Syntectics, an idea-getting system that included instruction in maintaining a positive field. They were given the same problem to work on: 'How to introduce and market a new fertilizer that required some unusual procedures of application.' At the end of the problem-solving period all participants voted on the ideas developed by both teams. Those developed by the 'field conscious' team were unanimous choices.

Teams at the Harvard Graduate School of Design and MIT Sloan School

In virtually the same experiment as at Union Carbide, teams were formed at these two graduate schools. In 1975 and 1984, one team had brainstorming training, the other the idea getting plus field management training of Syntectics. At MIT the results were judged by faculty members. At Harvard, an outside jury of architects was used. In both instances the field-conscious teams far out-performed their rivals.

Pygmalion in the Classroom

Cases of changes in the field dramatically improving results are not restricted to the business world. In education, Dr. Rosenthal, a psychologist at Harvard, told teachers he had developed a test to identify children who were about to 'break through' and become much better students. He gave the test and identified the students. At year's end, all had 'broken through' and were doing much better work. He then told the teachers that the test was not significant and he had selected the students at random (Rosenthal & Jacobson, 1992). The interpersonal field of friendly attention, appreciation and expectation created by the teachers had brought out more of the students' potential.

Interpersonal Field in Marriage

The intimate relationship between the two people in a marriage is often the most important in their lives. Dr. John Gottman (1994) has conducted a longitudinal study of marriages to learn why they succeed or fail. He scientifically measured the emotional responses of the partners as they discussed their daily issues. He found that if there is more than *one* negative moment for every **five** positive moments, the marriage will fail. Destructive fields are triggered by criticism, contempt, defensiveness, withdrawal and aggressiveness.

I believe that this same law of five positive interactions to one negative probably applies to **all** relationships whether at home or in the workplace.

The Psychological Background

For over 50 years, pioneering psychologists have been assembling evidence that supports the critical importance of the field in individual well-being and ability to achieve.

The Need to be Meaningful

From infancy to old age there is, in almost all of us, an ever-present need to be treated as people who *matter*, who are meaningful. When that fails to happen, it speaks to some deep part of us and we withdraw a part of ourselves as we raise our defense against hurt.

'The need to be seen, to be recognized, however it changes in the complexity of its form, may never change in its intensity... meaning is, in its origins... a survival activity... meaning depends on someone who recognizes you. **Not meaning**, by definition is utterly lonely. Well-fed, warm and free of disease, you may still perish if you cannot "mean"' (Kegan, 1982).

There are important implications for equality / inequality. To be treated as an equal says to me that I am as meaningful as you. To be treated as less than equal says I am less meaningful and seems to lead to a degree of guardedness that makes my potential less available.

Negative Field and Babies

In 1951 Dr. John Bowlby reported on the effect on infants of putting them in institutions where care was physically healthful but without tenderness and loving attention. In this field, the infants suffered permanent damage to IQ and their ability to relate to others (Bowlby, 1951).

At about the same time, psychiatrist Dr. Harry Stack Sullivan was finding that infant and child development depended almost entirely on the interpersonal field created between infant and caregiver. When the caregiver lacks tenderness and appreciation, the child develops behavior problems and fails to realize its potential for forming rewarding relationships (Sullivan, 1953).

The Synectics® Discovery

From observation and analysis of thousands of creative problem-solving groups in business, it has become clear that when the unwritten laws governing relationships are ignored, it creates a field that brings out the least in participants. 'Those who relate through coercion, or disregard for the other person, create negative

energy' (Wheatley; 1992). The coercion or disregard does not have to be intentional – it is the perception of the recipient that is critical.

The vast majority of people in our culture are hypersensitive to *any* demeaning action; criticism, discounting, being found wanting, rejection, etc.; far more so than is commonly appreciated. Discovery of this law of discount / revenge began with an amusing incident. The group was trying to devise a new, loss-proof stopper for a wide-mouthed Thermos bottle.

About ten minutes into the session, one member jumped to his feet and said, 'I think I've got it!' He waved a hand over the top of the sample Thermos bottle and said, 'Suppose we took a thin sheet' Another member of the group, the only woman, interrupted to say, 'That would be too expensive.'

We observers were puzzled: how could she know it would be too expensive, if she did not know what the idea was?

We later replayed the videotape. Earlier in the session, when the group was organizing itself to work on the problem, we found the answer to her later behavior. The man who had offered the 'thin sheet' idea had said to the woman, the only female in the group, 'Your handwriting is probably good, so why don't you be the note-taker for the group.' She had perceived this as a discount, she told us, relegating her to be secretary of the group. She was aware of that, but her 'revenge' reaction came as a surprise to her.

At the time, we thought her reaction was perhaps a reflection of immaturity; a more mature person would not be so affected by an unintended discount. However, as we began to pay close attention to anything that might be perceived as a discount, we discovered that the negative reaction was all but universal – regardless of age or position. Usually there was some form of revenge, but on occasion, the discounted person simply withdrew from participation and support.

The next surprise was the great range of actions (or inactions) that were perceived as discounts. Any sort of slight or negative attention or lack of acknowledgement was enough to change the field and set the discount / revenge syndrome in motion. The great impact of discounts on field, and on performance has been largely ignored. The enormous significance of this discovery is still being born out in recent brain research.

Given the unlimited opportunities for such unintended discounts in the everyday operations of businesses and other organizations, the extent of the destructive fields and the resultant defensiveness and lack of commitment by employees is hardly surprising.

Another surprise was the power of the reactions. The response is totally disproportionate to the provocation, which is often (usually?) unintended (as in the example given earlier). When a person feels discounted, they do their best to conceal any sign of its impact. However, by slowing the videotape, and replaying it, it is possible to observe minute changes in expression and physical attitude, and it becomes clear that something significant has happened. It is likely that their next participation will be adversarial to the offender, even if that is destructive to the purpose of the meeting.

Recent Brain Research

Recent brain research throws some light on the source of these negative reactions and the reasons why defensive maneuvers develop out of conscious awareness. In the 1990s Joseph LeDoux (1996), scientist at NYU, Michael Gazzanica (1985), Daniel Siegel (1999) and colleagues began to unravel the specific ways the brain deals with fear and anxiety. Incoming information from the senses is routed through an organ called the amygdala and its system. The information is scanned for two things: threat and possibilities for nurture – danger and love. When the signal says danger, the system goes into emergency. It virtually bypasses the thinking part of the brain and goes into emotional fight or flight mode. Anxiety is triggered and an electrical / chemical neural cascade in the brain produces a defensive action (see also Goleman, 1995).

This defense system begins to develop in infancy. When the infant is left alone too long, it senses that it has been abandoned and goes into an emergency display of screams and wriggling to get attention. Nature, knowing that abandonment will lead to death and meaninglessness, has sensitized the infant to defend itself. An infant first experiences anxiety at about six months when she / he senses that he has been abandoned by Mother, or that Mother is gripped by anxiety, or when the infant is confronted with a stranger (Kagan, 1984).

This alarm and defense system does not discriminate. Any *slightest* threat and it goes into action. Any abuse or neglect triggers the cascade to defensive action. As instances of abuse or neglect are repeated, the neural cascade becomes hard-wired. The threat occurs, the behavior happens without thought. As the infant matures, the brain continues to react to threat with anxiety, but this is a painful feeling and the brain develops 'foresight function.' It perceives threat and to avoid the dread feeling of anxiety it substitutes a defensive action. In the case of an infant, the initial defensive action is screaming and wriggling. This gradually evolves to going numb. When the 'more experienced' infant perceives threat of abandonment, its brain by-passes the screaming and goes directly to numb.

Defensive maneuvers develop largely **out of conscious awareness** and we are often unmindful of what triggers a defensive reaction. Most of us have experienced the surprising rush of anger when, as we attempt to pay for a purchase, the salesperson ignores us. Road rage and wife battering are extreme examples of inappropriate responses to a perceived threat to meaningfulness. Our internal field goes negative whenever meaningfulness is threatened. 'The brain, in other words, learns and stores many things in networks that function outside of conscious awareness... what a person is and what he or she thinks, feels and does, is by no stretch of the imagination influenced only by consciousness. Many of our thoughts feelings and actions take place automatically, with consciousness only coming to know them as they happen, if at all' (*LeDoux, 2002, p. 10*).

Think of a time when, in anger, you did something less than sensible. In anger, our limbic (emotional) self is not cooperating with our thinking self. We are not operating using our full talents. Consider the consequences of this reality: when, out of awareness, we suffer a discount, we begin to operate less than optimally. Then, consider the number of such discounts in the average work day (see Figure 1). Because the amygdala is approximate rather than precise, this limbic non-cooperation will be triggered whenever any event, even remotely / conveys 'you are unimportant' / or that demeans, discounts; suggests that one does not matter; that one is meaningless. **Any action of control, domination, demand, repression or imposed restrictions tends to set in motion this powerful counterforce.** Often neither party to the discount / revenge is aware that it is happening.

Figure 1

Clues for Reading Field	Express pessimism Preach / Moralize Be judgmental Be critical Disapprove	Take the ball away from Pull rank Get angry Scare / threaten Blame	Do not listen Do not join Use silence against Put the burden of proof on them
Convey Disrespect: "You are unimportant."	Point out the flaws Disagree Argue Challenge React negatively Discount Put down Be cynical / skeptical Insist on instant precision Correct	Name Call Compete Make fun of Be dominant Command Order Direct Demand Inattention Act distant	Ask questions Cross examine Give no feedback Put on a stone face Be impatient Nitpick Interrupt Be bored Assume no value Make no connections
Unconscious Defensive Maneuvers			

A Possible Way Forward

If we are all so hypersensitive to anything our 'infantile' emotional brain wrongly perceives as a threat, as both the brain research and Synectics research and experience suggests, how best can we go about ensuring that these defensive reactions do not occur? And when they do, how can we prevent them escalating into revenge cycles?

As a start, I have mapped out a catalogue of the actions that appear to trigger negative actions and hence move toward disorder in the field; and conversely those that move toward cooperation and synergy (Figure 2).

Figure 2

<p>Clues For Reading Field</p> <p>Convey Respect: "You are meaningful."</p> <p>Non-defensive, Collaborative Maneuvers</p>	<ul style="list-style-type: none"> Be optimistic See virtue in Focus on what is going for the idea Assume valuable implications Take responsibility for understanding Waste no energy evaluating early Jump to favorable conclusions Set win / win Make it no-lose Stay loose until rigor counts Support confusion / uncertainty 	<ul style="list-style-type: none"> Value the learning in mistakes Accept ambiguity Protect vulnerable beginnings Acknowledge Credit Be attentive Listen Be interested Show approval Give early support Accept Connect with Join 	<ul style="list-style-type: none"> Be open – wholly available Build on it Speculate along with Share the risk Take on faith Temporarily suspend disbelief Assume it can be done Share the burden of proof Listen approximately Paraphrase Deal as an equal Eliminate status / rank Give up all rights to punish or discipline
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Many of these are self-evidently positive or negative, but a significant number of the negative ones are generally considered to be acceptable and indeed productive behaviors in our society. Thus to challenge, disagree and argue are thought to be ways of achieving a high level of rigor in our thinking. To ask questions is a normal way of obtaining information and clarification. Even to 'make fun of' is 'only a joke.'

As transmitters of the message, we need to be aware that each of these behaviors has a hidden emotional charge, which is likely to have a negative effect (however positively intended). We then have to substitute ways of achieving the desired result, without the negative emotional impact. As recipients, our task is more difficult because our negative reactions are out of our immediate awareness and control. Even so, there are skills in the positive category that can be developed to neutralize the negative reaction -for example, the use of Paraphrase buys time to check whether the message we are reacting to is really what was intended.

Conclusion

The clear conclusion is that it pays great dividends to create positive fields in an organization. The behaviors that generate such fields are clear. So are the behaviors that toxify the field, but these are difficult to eliminate, partly because they are widely thought to be acceptable.

More seriously, these contrary behaviors are actions that originated in our brains long ago, when we were infants and children, as a defense against the anxiety triggered by fears of neglect, abandonment and abuse. The development of these actions proceeded outside conscious awareness, and they are still active and defending us against 'dangers' that are no longer there. Although mainly out of our awareness, each of us is exquisitely sensitive to **any** signal that resonates, even slightly, with long-ago anxiety about neglect, or abuse – any hint that we are not being treated as the important person we know we are.

When we examine the success stories above, each illustrates an effort to treat people as special, protecting them, as far as possible, from any of the toxic actions identified. They point clearly to the direction we need to go if we are to release natural excellence of the people we deal with. In addition, we will need to devise ways to bring the defensive reactions out of the unconscious realm and make them actions that are visible and unacceptable.

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