


AN ESSAY ON THE RECONCILIATION OF OPPOSITES



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ABSTRACT

Opposites are typically looked at in a way that defines one as good and the other as bad. It is proposed that this interpretation of opposites is limiting and, in fact, inaccurate. Opposites are, by nature and definition, interdependent. The way we deal with opposites in our lives influences the way we deal with them optometrically.

KEY WORDS

opposites, complementarity, context, Taoism, stress, Aikido

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ebster's dictionary defines opposites as: (1) set against, facing or back to back; at the other end or side; in a contrary position or direction; (2) characterized by hostility or resistance; (3) different in every way; exactly contrary; antithetical.¹ The first definition is useful in understanding a positive use of the concept of opposites. The other definitions either openly or surreptitiously imply a lack of positive aspects to the relationship between opposites. These concepts of opposites encompass a very separatist view of the two "entities" which are characterized as having nothing in common except for the fact that they have nothing in common. This type of one-step analysis imposes an artificial separation and tends to obscure the true essence of the concept of opposites; namely, their complementary nature. The word opposition (from the same root as opposite) exemplifies this paradox: opposition--one against the other.¹ The opposing sides are both required and are completely dependent on each other; if one withdraws, there is NO opposition. Frequently, the missing link is context. If we lose sight of context, it is easy to lose the connection between the two ends of the spectrum. As an ecosystem is the environment of organisms and their behaviors within it, context is the environment of thought and action. Without context, thought and action can easily be disjointed and inappropriate. The goal of this paper is to soften the boundaries we have constructed for the sake of linear simplicity and to add a flexibility and sense of flow to our understanding and utilization of opposites. I

will not dispute the "negative" definitions or concepts of opposites, but will rather question the way we perceive their relationship.

Two familiar examples of opposites in optometry are central vs. peripheral and figure vs. ground. Although central and figure refer to specific aspects of the environment and peripheral and ground may be similarly defined, what at a given moment is considered as figure easily transforms into ground, as when a peripheral stimulus draws our attention and becomes central. This illustrates the interdependent and fluid nature that is the essence of opposites.

In our culture we focus on the obvious differences between opposites because those are the easiest aspects to observe. We habitually stop at this point without looking more deeply at the dynamics and subtle interactions between the extremes. Other philosophies and cultures understand these dynamics in a way that more accurately reflects the actual circumstances encountered when the concept of opposites manifests in daily life. One of the basic tenets of the Chinese philosophy of Taoism is an understanding of the dynamic interaction and interdependence of opposites.^{2,3} The Western view of the relationship of opposites tends to be that of utter separation. Opposites are opposed to one another--completely incompatible. For example, good versus bad; give me only the desirable and none of the undesirable. The Taoist view is that of mutual implication. Head implies tail, good implies bad, birth implies death. The Taoist approach to opposites is embodied

in the Yin-Yang concept.³ Yin and Yang are merely convenient labels used to guide the perception and utilization of the way things function in relation to each other and to the universe. Yin-Yang theory contends that all things are merely parts of a whole. No entity can be understood without considering its relationship to other entities. No thing exists in isolation. There are no absolutes. "Yin and Yang must, necessarily, contain within themselves the possibility of opposition and change. The character for Yin originally meant the shady side of a slope. It is associated with such qualities as cold, rest (reactiveness), passivity, darkness, interiority, downwardness, inwardness, and decrease. The original meaning of Yang was the sunny side of a slope. The term implies brightness and is part of one common Chinese expression for the sun. Yang is associated with qualities such as heat, stimulation, movement (proactiveness), excitement, vigor, light, exteriority, upwardness, outwardness, and increase."²(pg.8) In fact, with the cyclic passage of time, one continuously is transformed into the other and back.

This principle describes the nature of organic process. It suggests two types of transformations: changes that occur harmoniously, in the normal course of events, and the sudden ruptures and transformations characteristic of extremely disharmonious situations. In normal life such regular transformations occur smoothly, maintaining a proper, healthy balance of Yin and Yang in the body.

Yin and Yang create each other in even the most stable relationships and are always subtly transforming into each other. This constant transformation is the source of all change. Change is one of life's few guarantees. Although we often fear and fight against change, there is neither denying nor preventing it. It may be a cyclic form such as the continual oscillation between inhaling and exhaling. Change is constant. When one is in balance, change is an ally, allowing freedom of movement and thought.

One who is out of balance in centering (vergence) and/or identification (accommodation) will experience this in compromised visual performance and in a less than optimal body/mind relationship. One who is overly convergent, inwardized, (Yin) may perform well on culturally imposed near centered tasks but,

generally at great cost to relaxed efficiency due to neglect of peripheral awareness and flexibility. This may be manifested in general behavior and/or in a flawed relationship between accommodation and vergence. Similarly, in one who is too divergent, peripheral, (Yang) there is great difficulty centering on the task at hand. Both styles have their merits, but the most efficient way to utilize the one is under the influence of the balancing effects of the other.

An optimal vision therapy (VT) regimen is designed to remediate or enhance areas of reduced performance while utilizing areas of relative strength. These latter areas are utilized as entry points into the visual system. This is done by keeping the isolation of "separate" functions to a minimum. This allows the individual to better experience the meaning of various aspects of function while maintaining the integrative nature of the program (and the process) as a priority. Strengths and weaknesses are both necessary components of any system. They complement each other best when balance between them is optimal and their interrelationship is understood. Consequently, vision therapy affords its fullest benefits when it is founded on more than a symptom-based approach. Therapy for the esotrope should not start and stop with divergence. Not only is it important to begin binocular work with activities at which s/he can succeed, but s/he must learn to feel and understand "what the eyes are doing." Therefore, it is important to maintain a wholistic approach. When remediating only the area of weakness, the result is improved splinter skills--in this case an improved ability to diverge the eyes. By keeping attention on the whole, on the context, the benefits become an integral part of the person and are more generalized. The need for strengths is obvious; the weakness came into being in response to a perceived need. The so-called weakness is often the very thing that allows a person to function with some degree of effectiveness. These two aspects must be carefully woven together when the therapy seeks to reestablish balance within the individual.

It is also important to consider the roles of the participants in this same complementary light. This is usefully addressed in the pair known as trainer and trainee. One aspect of this concerns the working definition of trainer. Is a trainer

one who doles out facts for superficial absorption or one who exposes questions allowing the trainee to search for truth and understanding from within? The latter puts the trainer more in the role of guide and the trainee in that of trainer. This allows for greater personal enhancement of understanding. More importantly, this helps to decrease the tendency to just accept the "facts." Another aspect of the trainer-trainee polarity revolves mainly around ego. Must the trainer control the information and the training situation? What is the importance of the trainer's position of authority? Should this power be used to determine what is correct or more to direct the flow of the training process?

A good trainer is one who is open when communicating with trainees. Being open gives the opportunity to learn via the act of teaching. Of course, many trainers are caught up in the separateness, in the opposition between trainer and trainee, and are missing out on a wonderful gift--the teachings of the trainee. Getman stated, "We learned more good training procedures from kids than we ever thought up ourselves because they're naturally innovative."⁴ While the knowledge that comes with many years of experience is an invaluable asset, it is not flawless. In most cases the many years of attention devoted to better understanding one's field of expertise creates not only tremendous insight but (and this may be unavoidable to some degree) varying degrees of preconceived notions about the way it "really is." One who is quite unfamiliar with the subject is often able to obtain surprising insights precisely because of a lack of understanding in the standard manner. When working within the constructs of a particular discipline, one must follow certain rules, think and act within certain guidelines. A novice must, by definition, be looking from a totally different perspective. The novice is unrestricted by rules and guidelines and is therefore free to think and act within a broader context. "The man who is striving to solve a problem defined by existing knowledge and technique is not, however, just looking around. He knows what he wants to achieve, and he designs his instruments and directs his thoughts accordingly. Unanticipated novelty, the new discovery, can emerge only to the extent that his anticipations about nature and his

instruments prove wrong."⁵

This tendency to see things through the filters of personal bias pervades science and all human interaction. The person who is striving to solve a problem is often over-committed to a singular aspect or idea. This facilitates a neglect of peripheral or more wholistic aspects. This, in combination with the insistence on "objective" research based on pure scientific data, tends to denigrate intuitive grasps or leaps. Science, which is systematized knowledge gained by observation, study and experimentation, is held in uncompromising opposition to intuition--direct knowing or learning without the conscious use of reasoning. The argument rages on. There is no place in science for guessing and feelings ... or is there? "(Often an) ...individual has struggled for years with a problem, unable to find the solution. This preparation period includes typically numerous observations, study of all the pertinent literature, and repeated unsuccessful attempts to tackle the problem with ordinary logic. The solution then comes in a non-ordinary state of consciousness--in a dream, during a time of exhaustion, as in a hallucination due to a febrile disease, or in meditation."⁶ (pg. 141)

One famous example involved the chemist, Friedrich August von Kekule. Kekule finally apprehended the elusive structure of benzene--the basis of organic chemistry--in a dream in which he saw a little snake biting its tail; hence the benzene ring.⁶ Episodes such as this are not uncommon in the history of science. It appears that extraordinary states of consciousness are able to suspend the traditional ways of thinking that prevent a solution and allow a new creative synthesis. Chance favors the prepared mind. However, it sometimes takes removal from the scientific approach into a mode dependent on the intuitive aspects of problem solving to reach the desired understanding.

This recalls some of the Taoist philosophy wherein we confront concepts such as "resorting to non-action" and "doing that which is not done by doing."^{3,7} These do not, in any way, refer to the complete absence of action or volition. The concept of "not doing" is better explained as not going against the grain of the natural flow. This being understood, it becomes clear that there are times when the application of force or effort, as we

commonly perceive them, are counterproductive. One does not surf from the beach out into the ocean. Skiing uphill provides few thrills. Sometimes the most progress is achieved by "letting go," as with Aikido. This is a non-violent art of self-defense whose name translates as "a way of life through harmony with nature where the opponent's force and energy are used to manipulate him."⁸ There is much similarity within the behavioral model of vision therapy. An example occurs with the Brock String. While conscious effort can be used to create performance changes, often improvement is achieved by "not doing," by allowing the system to find its state of optimal balance. When there is suppression, it cannot be forced away. Typically, as a patient tries harder and harder with the Brock String, performance deteriorates. This is precisely because stress reduces visual efficiency. Often the patient will say, "If I relax, it looks more stable." At this point we discuss how relaxation, as opposed to straining, is the key to optimal visual performance. As relaxation increases, automaticity increases and leads to higher levels of performance. A body/mind balance is achieved. Balance, in this case, refers to a state where perception and output (mind) are appropriate relative to input (body). This means that the person is seeing and feeling what is actually happening visually without succumbing to intellectual interpretations or previous habitual mismatches.

I believe that the visual system most often begins in a state of balance. At some point the need for adaptation arises in order to cope with some stressful event or circumstance. The adaptation to such stress creates a warp within the system which, unconsciously, becomes prominent. This warp becomes a filter for dealing with the stress at hand but that is not all. It can become a kind of bubble around the system which works full time to allow only certain stimuli to enter in certain ways. This situation creates and nurtures mismatches between the environment and its internal representations. This causes the initial state of balance to become submerged or suppressed. In this type of case the individual must learn to allow awareness to open up. It helps if there is understanding of both the adaptations undergone and the possibilities for change in order for balance to be restored.

However, forcing the issue tends to provoke a stress response and distorts awareness, which in turn creates new warps. This requires working within the realm of non-action.

This is why some optometrists present the patient with more questions than answers during vision therapy. Proceeding in this manner provides the opportunity for discovery, as opposed to merely following directions. In this way the hidden state of balance can gradually, gently be teased out of the jumble of adaptations; the bubble must be dissolved, not popped. Otherwise, there would just be an additional layer of adaptation instead of allowing "new" insights which become part of the foundation of perception and behavior. Again we see the need to balance the desire for control with the ability to "go with the flow" to achieve the desired outcome.

A good example is the Squinchel sequence of activities.⁹ This requires the patient to use one eye to fixate an object for manipulation while the other eye simultaneously "lets go" of a prismatically displaced, exact copy. One must also be able to reverse this situation at will. The visual circuit of the fixating eye must exert some measure of control and take charge of sensory integration. The other visual circuit, at the same time, must be fully aware of the companion image without trying to control it as basic urges would desire. If the urge to control and, therefore, equalize the images is pursued, the task cannot be successfully completed.

Another example, emphasizing the Aikido-like aspects of VT, is the prescribing of yoked prisms. One school of thought in this realm contends that the appropriate prism is that which further accentuates the current state of imbalance.¹⁰ This will provoke the system into a movement towards balance. This is similar to turning the wheel in the direction of a skid to regain control of your car. The initial imbalance resulted from an aggressive response to a stressful situation. This response brought short term relief but, instead of returning to balance after the stress ended, the response perseverated. This is the same as Hans Selye's "bottom line" regarding stress in general.^{11,12} Stress is not bad, it is our response to it that can be unhealthy. Now a little Aikido is needed. Without the interference of the mind, the body is often

very intelligent. The mind generally depends on logic while the body may often rely on intuition or instinct, such as reflex actions. The body is often willing to return to balance if given the opportunity. The Aikido, in this way of utilizing yoked prism, is in going with the brain's vector of imbalance, throwing it further off balance and creating an opportunity for the body to move back into balance.

Another apparently irreconcilable pair of opposites is certainty vs. doubt, as in, "We cannot use this procedure until we are CERTAIN of its properties." Albert Einstein touched on this by stating, "As far as the propositions of mathematics refer to reality, they are not certain; and as far as they are certain, they do not refer to reality."¹³ How long can we allow our certainties to overcome our doubts? With certainty comes knowledge, with doubt, understanding. Knowledge, in this context, refers to a conscious/intellectual process of gathering facts. It may even include some type of synthesis of these bits of information into a higher class of usable information. Understanding, however, refers to the assimilation of information and knowledge into the very structure of the system. At the point of true understanding, information and knowledge become integrated into what might be called the intuitive process as it influences behavior on a more subconscious level. I believe our culture knows too much while understanding too little.

Certainty is often a dead end. "We have found it of paramount importance that in order to progress we must recognize our ignorance and leave room for doubt. Scientific knowledge is a body of statements of varying degrees of certainty--some unsure, some nearly sure, but none *absolutely* certain. Our freedom to doubt was born out of a struggle against authority in the early days of science. It was a very deep and strong struggle: permit us to question--to doubt--to not be sure. I think that it is important that we do not forget this struggle and thus perhaps lose what we have gained. Herein lies a responsibility to society."¹⁴ Similarly, we cannot allow the constraints of the current paradigm to dictate the direction or form of progress.

One thing that makes opposites difficult to reconcile is lack of attention to context. When something is taken out of its environment, when it is taken out of

context, it cannot be fully understood. Chaos theory, one of the hot topics in physics today, is proving to be a good lesson in context. Chaos is considered the antithesis of order. One cannot be had in the presence of the other. Chaos theory is concerned with observing systems which, at some point, appear out of control. These are systems that are in some dynamic state, behaving "properly" until, at some point, a transition is reached, causing the system to behave in a seemingly random fashion. As various systems were studied, it was found that this was a very common phenomenon. "Now that scientists are looking, chaos seems to be everywhere. A rising column of cigarette smoke breaks into wild swirls. A flag snaps back and forth in the wind. A dripping faucet goes from a steady pattern to a random one. Chaos appears in the behavior of the weather, the behavior of an airplane in flight, the behavior of cars clustering on an expressway, the behavior of oil flowing in underground pipes. No matter what the medium, the behavior obeys the same newly discovered laws."¹⁵

The more chaos was scrutinized, the less chaotic it appeared. What seemed chaotic on one level was found to be quite orderly when observed in *context*. This is not unusual. This is, in fact, ubiquitous in science. Many concepts that seem to defy understanding do so because we fail to understand the *context*. For example, the wanton overuse of our natural resources was not even considered until the environmental context became obvious. Similarly, many fail to understand how VT could possibly have any meaning to a person who is experiencing learning difficulties. This happens because they cannot see the *context*; they have no concept of vision as a dynamic and pervasive system of thought and action.

Context is the key to understanding anything despite the fact that it is one of the first casualties of analytical science. Because context is often difficult to apprehend, it tends to be overlooked and important relationships are missed, often for very long periods of time. Chaos is just Nature's way of keeping things interesting. It is truly precise randomness that keeps things together in our universe. Chaos is about context. It is about patterns within patterns. Chaos is about deeper, or more subtle levels of order submerged within more obvious levels of order.

Chaos, it seems, is just another species of order.

Even our concept of time is not exempt from this paradigm of complementarity. Our usual appraisal of the linearity of past-present-future, which is so useful in our day-to-day activities, appears much less tidy than we would like, at least in some circles. As we all know, what happened yesterday helped shape what is occurring today, which will direct future events. That is that. Simple, tidy, linear. However, subatomic particles seem to have little regard for our linear outlook. They appear to dart back and forth in time and space, thriving on probabilities rather than actualities. While it is generally inappropriate to transfer concepts from the subatomic realm to the macroscopic world too frivolously, I would only say let us not be so sure of what we are so sure of.

We may not dart back and forth in time the way electrons and their fellow travelers do. However, information, thought and perception are not as solid nor as linear as we are. Is it possible for the present to change the past? "Let's take for example the order of words. Now words are strung out in a line just like we think events in time are strung out in a line and I can change a past word by a future word. If I say ...'They went and told the sexton, and the sexton tolled the bell.' You don't know what the first *told* means until you get [to] the sexton; you don't know what the second *tolled* means until you get to the word *bell*. And so the later event changes the meaning of the former. Or you can say, for example. 'The *bark* of the tree,' and the word *bark* has a certain meaning. Then I say, 'The bark of the dog,' and the later word has changed the meaning of the former one. And so, in this way, when we write history we find that writing history is really an art. The historian keeps putting a fresh interpretation on past events and in that sense he is changing it."¹⁶

Finally, I would like to address the pair known as doctor and patient. The classical Western approach to medicine draws a very distinct line separating doctor and patient: the doctor administers the medication or intervention that has been proven to be scientifically efficacious and the patient passively gets better. There are, of course, situations where this model is appropriate. However, they are not as widespread as the paradigm would lead us to believe. Perhaps this outlook could be

softened with some interesting examples. In a study done to evaluate the effects of placebos in relieving pain, four groups of subjects were given identical verbal instructions. "You will get a pain pill ..." Group #1 gets a pain pill from a clinician who thinks it's a pain pill. Group #2 gets a pain pill from a clinician who thinks it's a sugar pill. Group #3 gets a sugar pill from a clinician who thinks it's a sugar pill. Group #4 gets a sugar pill from a clinician who thinks it's a pain pill. Group #1 experiences a significant reduction in pain over time. Group #3 experiences an increase in pain. Not only does group #4 experience a reduction in pain but that reduction is greater than that for group #2.¹⁷ The attitude of the caregiver must be included in the equation for healing.

Research has also been carried out to investigate brain-wave patterns (EEGs) of a healer and patient. The healer was a "non-traditional" practitioner who uses techniques that create conditions which allow the patient's inner processes and abilities to affect recovery. "During the treatment, the EEGs of both persons showed very different patterns. Before the treatment, however, when the healer concentrated on his patient in order to 'figure him out' intuitively, the healer's EEG for a few seconds assumed the precise pattern of the patient's. Cognition became recognition outside of himself."¹⁸

These examples help, it is hoped, to reconcile two intractable pairs of opposites. First, they pose significant questions regarding the absolute separation of mind and matter, bringing them into intimate, complementary interaction. They have been removed from the tightly sealed boxes in which they have been kept since the time of Descartes. Next, the patient/doctor barrier begins to wane as complementarity transforms our perception of this into the patient/doctor COMPLEX. A great contribution to this understanding is the doctor as patient. My time spent as a VT patient has proven invaluable to my ability to help others. Through this I gained the personal benefits of vision therapy, the insights that can only be obtained from first-hand experience and empathy for my patients as they journey through each activity within the visual therapy process. I find it hard to imagine how I would function without having had this as part of my learning process.

The understanding that by healing we are healed is another benefit of looking at the patient/doctor complex more openly. This is not only due to the great satisfaction of knowing you have helped someone to have a better life. All the reminders we give patients regarding breath, posture, awareness, relaxation, etc. help us to remind ourselves of these same things which we probably all need.

While much of this may seem too esoteric to be clinically relevant, it is hoped that further reflection will allow for the unfolding of these ideas within each of us. If we soften our views toward these concepts, our relationships with our patients, ourselves and each other can only be enhanced. All of the opposites we deal with, on so many levels, could become subtle though powerful tools if we would utilize their interdependent nature. As we begin to see the blurring of our artificial boundaries, clarity arises.

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