

Deeper than Languages Lie Zhuang Zi's Roots (Draft, not for attribution.)

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Since concepts can be incrementally improved and no concept is perfect, I believe that conceptualization has to be some kind of a creative act. The revision of crucially defective conceptualizations is a necessity for human advancement, and the traditional designation for individuals who are capable of casting aside old certainties and returning with a revitalized conceptual system is mystic. I now approach the subject of the career of the mystic from the standpoint of the ancient Chinese philosopher, 莊周 Zhuang Zhou, commonly known as 莊子 Zhuang Zi (Master Zhuang). Although he gives several accounts of mystics, they are all third-party narratives and rather abstract, so I have frequently supplemented my treatment in footnotes that bring in the first-person account of a neurophysiologist and involuntary mystic, Jill Bolte Taylor, whose ability to conceptualize was inhibited in a major way by an aneurysm that severely impaired the language center of her brain, producing what she described in writing as *My Stroke of Insight*.

In my view, and in the view of all of my teachers, Zhuang Zi was either a mystic himself or at least he spoke for mystics and mysticism. He was a contemporary of Mencius and lived from around 369 B.C. to around 298 B.C. He is regarded as one of the finest writers of the Chinese language, and his thinking has had a strong influence on human life since the period during which he wrote and taught. He is highly regarded for teaching humans how to set themselves free of inappropriate conditioning and recover autonomy.

In an interview heard on radio, neurologist Jill Bolte Taylor said something like this: “Language is the tool by which we create our world and by which we understand that world.” Our world, and the discrete individuals that inhabit it, must then be fabrications, that is, constructions that humans place on what some present-day physicists would describe as the single continuum that is to be described by quantum field theory. Zhuang Zi and whoever wrote the *Dao De Jing* (attributed to “Lao Zi,” the “old teacher(s)”) would say that there is a boundless realm called the 道 dào or the Way, and that humans 制 zhì fabricate what we treat as discrete entities from that continuum, that unity, the One.

I write in response to many interpreters of Zhuang Zi who have explained or translated the second chapter of his book, the “Qi Wu Lun,” as though it were largely motivated by paradoxes involving words, sets, and logic, and certainly feel that it is based on some kind of nominalism. They take the world to be an undeniably real and straightforward field of experience about which humans may have different interpretations and evaluations. I think this school of interpretation falsely assumes that Zhuang Zi accepted and continued in the same line of thought as the Logicians, people such as Gong-sun Long and Zhuang Zi’s friend Hui Shi¹. Zhuang Zi, then, must have basically agreed with Master Hui’s basic approach to the world and must only have disagreed with the explanations or interpretations he may about this world of ours.

These interpreters may take their cue from Zhuang Zi’s mention of the strange claim that 以指喻指之非指，不若以非指喻指之非指也 “To take a pointer to demonstrate that a pointer is not a pointer is not as good as taking a non-pointer to demonstrate that a pointer is not a pointer.”² This thesis seems to be derived from an earlier claim made by Gong-Sun Long. Some may believe that

they know what Zhuang Zi means by this statement, and therefore they explain large portions of Zhuang Zi's discourse on the assumption that the main ideas on epistemology in this chapter must follow from, or must at least be ancillary to, this logicians' puzzle. The quoted assertion by Zhuang Zi pops up in the middle of an otherwise smooth-flowing discourse. None of the translations I have seen make it blend together with its context in a persuasive way. In their translations, it stands as a paradox jutting out of a group of assertions about how words and evaluations work.

Why would Zhuang Zi include a nonsensical statement in his discourse? The only obvious reason, and one that he uses at another point in his discussion, is just to say that something is as nonsensical as, e.g., making a cheese sandwich from the moon. When he does not have hyperbole in mind, as in the business about pointers quoted above, what can he be doing?

As I understand this chapter, it is Zhuang Zi's intention to subvert the Logicians, not to contribute to their effort. To defend my understanding I have found it useful to explain the *Zhuang Zi* in terms of the *Zhuang Zi*, working around the above-quoted passage (which I believe may be an intrusion from an early commentary) while adding concrete examples from the real-world experience of Jill Bolte Taylor in an attempt to make the abstract presentation more easily comprehended. Then I address the logicians and their issues with the aid of an extremely impressive study of the *Gong-Sun Long-zi* by Lisa Indraco. ³ She points out, indirectly, that any discussions of words, sets, and logic has to depend on what she calls a gnoseological capability of the human mind that somehow pulls 物 wù, "things" or "creatures," out from the background of sense data in which they are to be found.

To my mind, this gnoseological capability and the consequences that flow from it is the focus of Zhuang Zi's effort, and a subject that is entirely uninvestigated by the logicians. By using it, mostly without conscious awareness or direction, humans create concepts that may be more or less appropriate.

Wrongly constituted concepts can be deadly. At a time when police killings of African-American citizens appear to be disproportionate to the killings of citizens of other skin colors or ethnicities, and at a time when differing "identities" are grounds for communal violence all over the world, Zhuang Zi's philosophical analysis of how prejudices and other forms of misconceptions are constituted is a valuable gift to those who suffer from these issues and those who want to cure the related social ills.

Deadly situations require of humans their full mental preparation. In a time of frequent and bloody conflicts, soldiers and law enforcement officers find themselves in potential conflict situations more often than anyone would want, and they need the best help available for perceiving conflict situations accurately and reacting in a correct and timely way, not misconceptions that may cloud their vision. Failure to have adequate preparation for perceiving what is actually there may lead to death, either the death of someone who is tasked with protecting others, or the death of someone who has been misperceived as an armed assailant by those soldiers or law enforcement officers.

Rationalization is counterproductive. Rather than indulging in the satisfying but corrupt act of blaming others for bad things that have happened, it would be better to understand the potential sources of error and make oneself as fully able to meet challenges

coming from the environment as possible, and to expand that actualization of human potentials to the broadest extent possible.

A good kind of nurture can alleviate human suffering by addressing the dysfunctional factors mentioned above. In the long term, changing the environment to reduce factors leading toward conflicts and destruction should be the goal of everyone who does not intend to take the role of predator among other members of the human community.

Zhuang Zi produced a relevant analysis of perceptions and values and of how they came into being and perform both valuable and dangerous functions in the human world. Thus his work offers a new start on an old problem. It extends into the realms of ontology and epistemology.

Disattending from the issue of how concepts are formed is a fundamental error in the study of Zhuang Zi's "Qi Wu Lun." I reject attempts to approach the *Qi Wu Lun* chapter of Zhuang Zi's eponymous book that would ground themselves in all the apparatus of Western philosophy and display all the parts of his presentation that can be treated that way. I do not want to be left with the feeling that somebody might get from a dissertation on the works of J. S. Bach done from the standpoint of the mathematical calculations used to define organ pipes, the frequencies produced in the gamut produced from his organ, the ratios among the several notes in each chord defined for playing in musical compositions that he wrote, and only in an afterward to the dissertation coming at last to the marvelous music that was produced using these tunings. Concentrating on the mathematics of musical sounds can interfere with the experience of the music and its effects. In short, I think the translations and studies that have taken off from the work of A. C. Graham have largely missed the point, retreating from mysticism to a kind of pale reflection of

mysticism expressed as statements about insights that mystics might claim to experience.

Zhuang Zi and his philosophy came out of a cultural background that was shamanic with a recent and growing overlay of Confucianism. Shamanism involves entry into altered states of consciousness. Scholars have long pointed out the mystical activities and disciplines implicit in Zhuang Zi's work, and Zhuang Zi even gives explicit accounts of some shamans whom he subjected to mild ridicule. Shamanic and mystical schools of practice require dedication over time, which may explain why people have been reluctant to try this path, or why they have become discouraged when they have been unable to receive adequate feedback and encouragement in the pursuit of their spiritual disciplines. Zhuang Zi has taken the traditional methodology of the shamans and applied it to a different, and perhaps greater, goal. Jill Bolte Taylor, after experiencing what she calls her "stroke of insight," discovered that "Peace is only a thought away, and all we have to do to access it is silence the voice of our dominating left mind."⁴ But there is even more than that to be gained in the reassessment and change of failing concepts by means of this methodology of "silencing" or of entering into an altered state of mind.

How did human beings get to the point of producing philosophies? How did that initial impetus develop in the case of the Daoists as a kind of polar extreme that seems to share more with the 楚辭 *Chu Ci* (Songs of the South) than the 論語 *Lun Yu* (Analects of Confucius)? A dramatic representation of shamanic practice from the *Chu Ci* is much closer to the thought of the *Zhuang Zi* than a study of the Confucian view that kings and other things should conform to their defining concepts.

Recognizing things as fitting into characteristic patterns is a fundamental ability of human beings. It seems nearly automatic, or almost innate, and it seems to occur effortlessly. Babies learn how to talk after about a year. However, language learning may be a sign of some deeper ability to which humans ordinarily do not have conscious access.⁵ Without concepts, how would humans assign common nouns to things?

Little children learn words easily, and doing so amounts to learning concepts in some implicit way. They learn the word “dog,” they learn that dogs say “bow wow” (which is not very close to the sounds that dogs make when barking), and having seen drawings or more realistic images of dogs they seem to require little if any additional prompting to accept the identification of a neighbor’s pet as a dog. Moreover, having seen, e.g., a cocker spaniel and a Pekinese, they seem to have little if any difficulty in figuring out that a Russian wolf hound, a chihuahua, and any other kind of dog is a dog. If they have any difficulty at all it probably lies in distinguishing a wolf from dogs or a zebra from horses. It seems that children also learn to see color differences. Jill Bolte Taylor wrote that after her stroke she was unaware of the differences among the visual presentation called colors. She had to re-learn to see colors, and when she did the change in how she saw the world was instantaneous and dramatic.⁶

In taking the fittingness of what are regarded as “natural kinds” for granted, early philosophers made the mistake of assuming what they needed to prove. There is no empirical proof possible to show that, e.g., all electrons are alike; there is abundant empirical substantiation for the same belief. It is clear that a belief of that type, expressed as, “All electrons are exactly alike,” is a convenient fiction. It provides humans with a component of an extremely useful model. Newtonian physics. But it would be a mistake to accept such a statement as *a priori* true. In the case of more

complicated features of our universe, there is no identity among, e.g., all pandas or even any two pandas.

In the 齊物論 *Qi Wu Lun* (Treatise on Leveling Creatures), Zhuang Zi first establishes the idea of people being like flutes and of their being “blown” in some unknown way that makes them capable of producing speech sounds. So speech is a joint product of a posited external motivator and a probably unique set of individual physical attributes. However, this area of knowledge still needed to be worked out in detail, so a long conversation ensued within the pages of Zhuang Zi’s book and related texts.

Zhuang Zi argues that there are both high quality and low quality kinds of knowledge to be expressed in speech that can have crucial impacts. There are, moreover, high quality ways to process information and to interact with the world, and low quality ways to do the same kinds of things. It matters enormously how these ways of learning about and knowing about the universe are put into practice. Mishandling of one’s life in this regard can lead to a vastly diminished quality of life, an almost lifeless life, an irremediable life, or, under the worst of circumstances, a violent death.

Emotional reactions to what one holds to be facts can have crucial consequences. React in a counterproductive way, and resulting chaotic emotional imbalances can dominate one’s entire lifespan.

The best response to highly problematical situations that only get worse, according to Zhuang Zi, is to experience everything, without personal attachments or values, as the unmediated state of the 道 *Dao* (what we would call the Universe), and then rethink everything. Among other things, Zhuang Zi is eager to let people understand that their handling or mishandling of the events they

perceive can have very strong influences on their lives. Only after a potential problem is seen in an entirely objective way, can an individual best decide how to pursue his or her personal goals, feelings, and values.

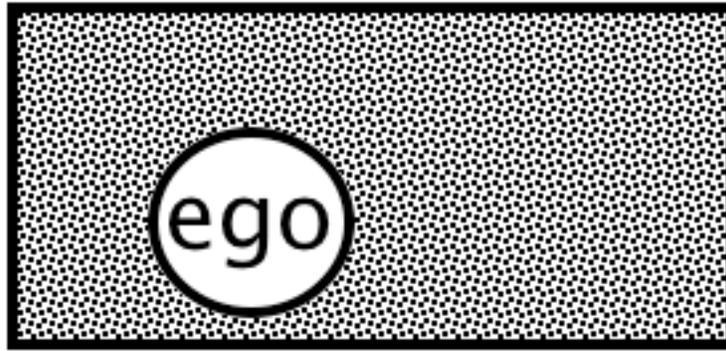
The Dao is in some sense chaotic, at least insofar as all human awareness can tell, but it is believed to be the source of all pattern and all change that we call the universe. When any given human is conceived there is no sense of “I,” or “the ego.” Something has to happen to change an indiscriminate response to the environment to a response that can see events in causal terms. Before going deeper into how things happen, Zhuang Zi first makes some observations about what happens when a human mind first appears, emerging from chaos, emerging from the Dao.⁷

Something unexplainable happens to create a region of this undifferentiated continuum called the Dao, something that mirrors its complement, the rest of the universe.⁸ Of this birth of awareness, Zhuang Zi says:

非彼無我，非我無所取。

Were there no other, there could be no I. Were there no I, there could be nobody to do the apprehending.

Suddenly, things must come into focus as a dichotomy between “myself” and “everything ‘out there’ that is not I myself.” (It should be kept in mind that this event occurs at a preverbal level.)



A “this” emerges and sets itself off from the Universe

The Latin word “ego” is used here for simplicity. “I” might become confusing in diagrams. The diagram is intended to show something capable of perceiving things in the circle, and some inchoate or chaotic sense data or qualia streaming in from the outside, nothing specific, but just a blur of undifferentiated sensations. Appearances are said by Zhuang Zi to 代 dài, to replace each other, in an unending sequence.⁹ When a human is first born there is a blur and a cacophony, and a mind that must be in confusion. It must be an embryonic mind that has emerged in and from chaos and confusion.

Next, Zhuang Zi runs through all of the emotional and practical consequences that can follow from this original dichotomy having been set up. As soon as one sets up a situation of “myself against everything else out there,” the likely course is to consider oneself in a zero-sum game, one begins to fear being terminated, and one begins to favor one’s own ensuing interpretation of the world in which there are many idiosyncratic, subjectively fabricated, 物 wù, (i.e., creatures that have been 制 zhì or 切割 qiē gē, cut apart from the unity of the Dao) in preference to any other competing interpretations that one may learn from other people.¹⁰ One is not in any way instinctively objective.

Conceptually, things have extent not only in space but also in time. One learns to conceive of oneself as having been conceived, having been born, and eventually as dying. So life and death as well as self and other are all matters of conceptualization, and even space and time are fabrications. What happens to, e.g., the fear of death when one puts one's self aside? The *Dao De Jing*, chapter 13, says, "The reason that I can experience great suffering is that I have a self. At the point that I cease to have a self, what suffering could I experience?" What happens to the relationships among experiences when one flurry of qualia bears no temporal relationship to any other flurry of qualia?¹¹ Establishing a time line for one's experiences makes one capable of going from "this follows that" to "this always follows that," and one begins to get the idea of cause and effect. Lacking that timeline there is no sense of sequence.

If everybody can carve and label the unity of the Dao in his or her own way, what can be the value of speech and narrative? Must it be entirely random collections of what Plato would have labeled as opinions? Or does the Dao push back against the interpretations or the constructions in proportion to how inappropriate they may be?

One of the things that early 20th century physicists discovered was that quantum events stubbornly occur according to their own ways. Arguing with the universe that things ought to operate in some other more sensible way does not produce any of the desired results. "Is there a difference between words and the cheeping of nestling birds or is there not?" The answer has to be a kind of yes and no. Humans can get things really wrong, in which case reality bites them hard, or they can get things pretty close to always producing reliable expectations and yet there is no way to prove that they are right.

What is problematical with the means by which humans ordinarily conduct themselves in this process of learning about the world? Whatever is outside of us seems to run by its own rules, but the rules are not easy to learn by observation and inductive reasoning. Humans want to know “the way things work,” but they come up with contending hypotheses that they uphold as though they were absolute truths. They find other people have contending hypotheses. “As a result, much contention has arisen between the Confucians and the Mohists, in which each affirms what the other denies and denies what the other affirms.”

Faced with the practical problems presented by differing ideologies, Zhuang Zi gives us a cryptic solution: “There is no better course, in desiring to show to be true what others deny and denying what others affirm, than the use of 明 míng Brightness.” What this “Brightness” is, Zhuang Zi does not say. He just indicates that something, some process, can cast a clear light on these muddled objects of our concern.

In chapter 26, Zhuang Zi explains his use of “fish traps” to show how the mind reaches out to perform an operation that enables it to categorize things. It is an extremely perceptive way of understanding human recognition of features of the environment. The broader connections of the discussion in this chapter to issues outside China exceed the scope of this inquiry, but are of great interest and value.

The act of prehending something (by creating and using “fish traps”¹²) in the region outside of the self creates a multitude of “others” that are subsumed under the general category of “not-ego” or “not myself.” Zhuang Zi examines the relationships among “ego” and the many “others.” He says:



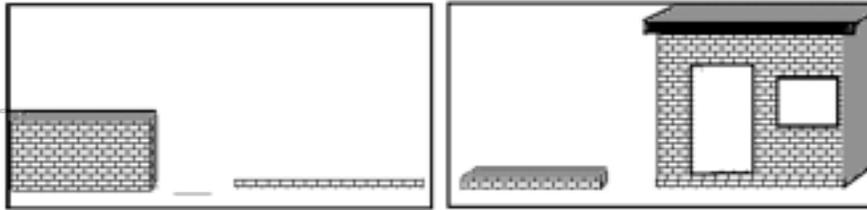
Two centers of awareness look at each other

物無非彼，物無非是¹³；自彼則不見，自知則知之；
故曰：彼出於是，是亦因彼；彼是方生之說也。

There is no creature that is not a "That" and no creature that is not a "This." From the standpoint of "That" one will not perceive. But from Gnosis one will know it.¹⁴ Thus it is said: "That comes out of This, and This is also dependent on That." Such is the account of things that says that "This" and "That" are produced simultaneously.

Zhuang Zi is struggling with language. "This" is his designation for what we might call the ego, and "That" is his term for the non-ego, the rest of the Universe outside of the ego. He indicates that everything has at least some limited capacity to image its surroundings. A rock lying on a pasture might only have a rather diffuse image of the sun in the form of differences in temperature of different regions of its interior. The rock then counts as a "This" and the sun is its "That."

The Dao being an ever-shifting dynamic system, nothing can stay constant forever.



A pile of bricks becomes a brick house

雖然，方生方死，方死方生；方可方不可，方不可方可；因是因非，因非因是。是以聖人不由，而照之於天，亦因是也。

But even so [no constancy ensues], at the moment that one thing is produced something else dies. At the moment that one thing dies, something else is produced. When one thing becomes permissible, something else becomes impermissible, and when one thing becomes impermissible then at the same time something else becomes permissible. One circumstance motivates an affirmation and so that basis also motivates a complementary denial. One circumstance motivates a denial and so that basis also motivates a complementary affirmation. ¹⁵

Therefore the sage does not draw on these distinctions and instead casts vision on them in their natural state. To do so also depends on This.

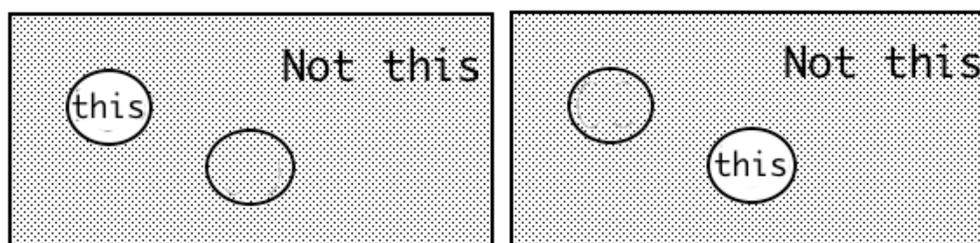
The ego sets itself off from its world and then subdivides that world into 物 wù, creatures or entities that may be understood to be discrete individuals and enduring in nature. Grandparents, aunts, uncles are others who live apart from a child for months or years at a time find that some things in the universe change rather rapidly and that their mappings of their younger relatives need to be revised frequently. In the process of growing that child, plants and other animals have died. Photons cease to exist as plants photosynthesize. That nothing comes from nothing is not a

new idea. The boundaries of some seemingly discrete individuals are reduced to zero, and the boundaries of others become enlarged. Zhuang Zi thinks that nothing is constant, nothing endures forever except the universe. Statements must follow from this general pattern of constructing one thing on the basis of the underlying inchoate Dao and then affirming its nature and definition on the basis of one's own experience. As a consequence, one's awareness may sequentially affirm and then deny alternative characteristics. Others may observe this thing and deny one's own account of its attributes and as a consequence must also affirm some set of characteristics that are alternatives to one's own. One person might observe a clump of *Cladonia cristatella* and claim it to be a single colony of lichen, not to be several moss plants, and another person might claim it to be several moss plants rather than a single lichen colony. Examination of *Cladonia cristatella* under a microscope might make the first observer change his or her claims regarding this kind of life, and checking its superficially observable traits would rule out its being moss.

Human attitudes toward things can also change. If a nation originally had no laws or social mores pertaining to the consumption of food or drink, then when, e.g., alcohol is declared to be forbidden, that same act creates the counter-set of other things that are drinkable and that are permitted. This creation of sets and their complements is simply the ordinary way that set formation works. For every "this," i.e., for every set that is declared, there is a complementary "that," a set that includes everything that "this" does not contain. Perhaps more often than not, the creatures that one has established in the world by figuratively marking them out, the sets that one has created

in this way, or perhaps the valuations that one has attached to these various sets work badly in practice. Those with extraordinary competencies, the sages, will then dismantle all of these fabricated divisions and look at the universe as it was in the beginning, without the carved-out discrete individuals. If poisoning one tree in a grove of quaking aspens results in the simultaneous death of all of the individual trees in the grove, then perhaps it was a mistake to have conceived of them as individual organisms. When the sage does an analogous thing to all of the “discrete individuals” in the universe, and does what Zhuang Zi calls 齊物 qí wù (leveling or changing things so that no one so-called creature stands out from the rest of one’s experience) there still remains the awareness of the Universe that Zhuang Zi calls a “This.” One has a self-experience of the Universe.

There is no inherent hierarchy of privilege or status among any of the regions of the Dao that might be cut out or fabricated as 物 wù or creatures. Their accuracy and utility need to be judged on empirical grounds.



What is not-I or not-this depends on who is talking.

是亦彼也，彼亦是也。彼亦一是非，此亦一是非。果且有彼是乎哉？果且無彼是乎哉？彼是莫得其偶，謂之道樞。樞始得其環中，以應無窮。是亦一無窮，非亦一無窮也。故曰：莫若以明。

A This is also a That, and a That is also a This. A That is also an affirmation and a denial. A This is also an affirmation and a denial. So is there really a This and a That? Or is there really no This and no That? When That and This both fail to get their counterpart (i.e. each other), we have what is called the balance point of the Dao. The balance point gets placed at the center of its circle in order to respond to the infinite. Affirmations involve an infinity, and denials also involve an infinity. Therefore it is said: "There is nothing like Brightness."

Ego and other, This and That, and similar dichotomies may involve the human acts of affirmation and denial. Saying, "I am the observer, and you are the observed," involves affirming selfhood of myself and denial of selfhood to the other. But there is no true kind of rank or priority in the Universe. The one just being called "the observed" is in fact just as much an observer, an ego, as I am, and from his or her point of view, it is I who is the observed, the "not This." Recognition of something one might call "selfness" in a That, in another region of the Universe, is the foundation of empathy, and the beginning realization of self-awareness. Attending to self-awareness and also to one's lack of direct other-awareness leads to the realization that some others are other instances of what I am. That realization in turn leads to the question of whether I can rationally consider myself more important or more valuable than any of the alternative selfs in the Universe.

I look out at the Dao (the Universe) and put a construction on it. In this construction there are bad communists and good people resembling me. You look out at the Universe and put another construction on it. In your construction there may be good Marxists and bad slavers, capitalists, and other rotters such as

myself. Zhuang Zi is not a solipsist. Humans with their constructions are dependent on the Dao, and events in the world will not arrange themselves according to my subjective preferences, or the subjective preferences of any human. But there is no *a priori* way to know which, of all sets of constructions placed on the Universe, is the least unsatisfactory way of reducing the ever-shifting flood of experiences to some manageable model.

The Dao, the Universe, is a unity, a continuum. As such, it can be divided and sub-divided without end. Thus the number of possible “discrete entities” is infinite. It would be impossible to do more than skim the surface of such an infinite field. On top of that, each human has an alternative set of “discrete entities” to impose on the unity of the Universe. Contrasting any two sets of constructions will inevitably lead to contradictions. Both sets cannot be true. However, the obvious possibility is that both sets may be false. The situation is even more challenging when the same individual has one or more pairs of inconsistent constructions. One way that constructions can be inconsistent is when a single phenomenon has two or more constructions imposed on it, each construction is useful and appears to be as useful and as true as any useful fiction or model can be, and yet these constructions suffer from what Thomas Aquinas called a conflict of notes¹⁶.

In the early 20th century, such a conflict of notes rose to the attention of scientists who discovered that certain phenomena could not be adequately described using the concepts of Newtonian physics. One instance of the practical contradiction they found was the realization that light could not be adequately described as made up of particles (Newton called them corpuscles) and also could not be adequately described as waves. Sometimes photons revealed themselves in phenomena that could only be described by talking about photons as waves, and sometimes the observed photons could only be described as

particles. But there is no way that any of the minds of these physicists could visualize or otherwise imagine a thing that was simultaneously a wave and a particle. Nobody goes to the beach and sees a thing that is simultaneously like a wave coming toward shore and like a beach ball.

Niels Bohr was the foremost scientist dealing with this problem in the early period, and Werner Heisenberg was the first to create a concept and an equation to describe what was actually going on. It took Jagdish Mehra and Helmut Rechenberg a dense two-volume book, *The Historical Development of Quantum Theory*, to describe the vast number of faltering steps that needed to be taken to replace Newton's model of the phenomena studied in physics with a new physics called quantum mechanics. Holding contradictory ideas such as light being both a wave and a particle was not a comfortable experience, and yet they were as though enslaved to this situation. Truly, they could be described as having been enthralled by this paradox.

Throughout the history of the developments that culminated in Heisenberg's historic 1925 paper that established the new quantum mechanics, readers can see a kind of ferment occurring, a profound and perplexing experience of frustrations leavened by the occasional flashes of insight that accompanied progress.

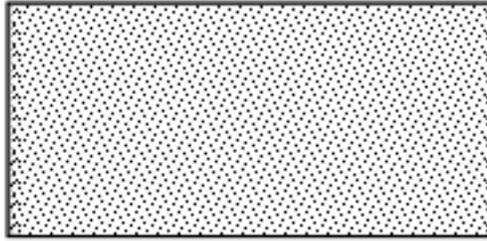
In *Physics and Philosophy*, Heisenberg summarizes, I suspect with great deal of understatement, the experience of minds bouncing off walls of impossibility over and over again until so much of the old had been abandoned that the little flashes of insight could line up and yield to Heisenberg's attempts to assemble them into a satisfactory solution.

During the months following these discussions [in Copenhagen with Bohr and his circle] an intensive

study of all questions concerning the interpretation of quantum theory in Copenhagen finally led to a complete and, as many physicists believe, satisfactory clarification of the situation. But it was not a solution which one could easily accept. I remember discussions with Bohr which went through many hours till very late at night and ended almost in despair; and when at the end of the discussion I went alone for a walk in the neighboring park I repeated to myself again and again the question: Can nature possibly be as absurd as it seemed to us in these atomic experiments?¹⁷

Finally in early June of 1925 an attack of hay fever drove Heisenberg to the island called Heligoland in the North Sea and there he made his breakthrough.

At first, I was deeply alarmed. I had the feeling that, through the surface of atomic phenomena, I was looking at a strangely beautiful interior, and felt almost giddy at the thought that I now had to probe this wealth of mathematical structures nature had so generously spread out before me. I was far too excited to sleep, and so, as a new day dawned, I made for the southern tip of the island, where I had been longing to climb a rock jutting out into the sea. I now did so without too much trouble, and waited for the sun to rise.¹⁸



Take away the Ego, and what remains?

What is the experience of someone who puts to rest all these fabrications (制 zhì) that one has constructed, without much self-awareness, since birth? It must be experienced as the loss of the comprehensible world, a return to chaos. In her account of a stroke caused by an aneurism that affected the language center of her brain, neurophysiologist Jill Bolte Taylor gives a fascinating account on page 59 of *My Stroke of Insight*. Letters and blocks of text became abstract drawings, abstract drawings flowed borderlessly into the swirling world of visual experience, colors and edges no longer had any meaning to her, no object were distinguished, and self and other disappeared into an awareness in which “I perceived myself as fluid.”

The text of the Zhuang Zi focuses on “pointers” from:

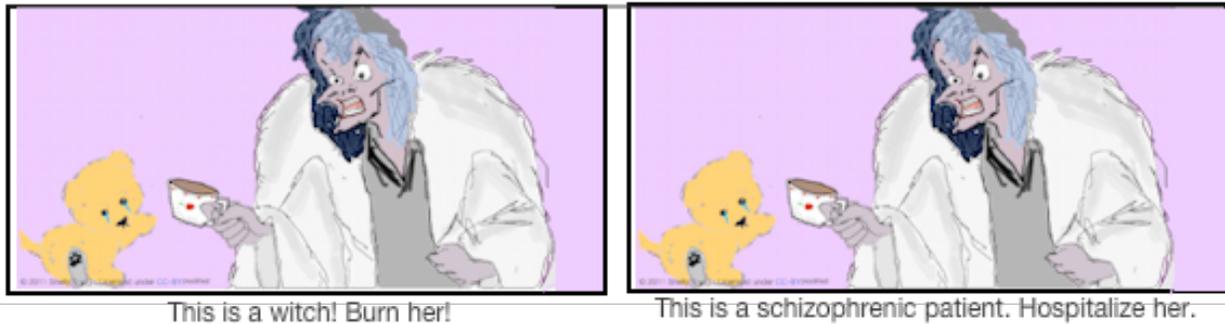
以指喻指之非指，不若以非指喻指之非指也；

to:

天地一指也，萬物一馬也。

This part of the text, a possible intrusion, will be discussed later. It tends to break up the narrative unity of the text.

Picking up the earlier discussion, the part where it finishes with: 彼亦一是非，此亦一是非, the *Zhuang Zi* continues to consider values and other secondary attributes:



Two constructions placed on the same woman¹⁹

可乎可，不可乎不可。道行之而成，物謂之而然。惡乎然？然於然，惡乎不然？不然於不然。物固有所然，物固有所可。無物不然，無物不可。

Permissibility comes from giving permission.

Impermissibility comes from denying permission. A pathway is created by walking it. Creatures are what they are **declared** to be. How is it that things are the way that they are? They are thus because people affirm them to be so. How is it that things are not some way? They are not that way because people deny their being that way. Things are firmly endowed with the ways that they are, and they are firmly endowed with their permissibility. There is no thing which is not as it is, and there is no thing that is not acceptable (permissible).

If I made an ink blot and declared it to be a four-winged dragon, who could say that I am wrong? If you made an ink blot and declared it to be a kraken, who could say that you are wrong? For me, my ink blot is whatever I declare it to be. My cloud is a cherub. Nobody could dissuade me from that view. Where do human values come from? Who decides that it is wrong to eat beef? Who decides that it is permissible to eat beef? Zhuang Zi's answer is that these values are part of the way that humans carve

things out of the undifferentiated flood of sensations or qualia that present themselves to the fledgling ego. One person might experience something as intimidating and declare it to be bad. Another person might see it in a different light and declare it to be neutral or even good. A real-life example would be situations in which one group of humans, encountering an old woman with snaggly teeth and a tendency to utter barely audible maledictions, declare her a witch, and make preparations to burn her at the stake, and another group of humans upon encountering the same woman, declare her malnourished, demented, possibly paranoid schizophrenic, and make arrangements to have her receive proper medical and psychiatric care.

A disheveled woman, such as the one suggested in the illustration above, might be neither a witch nor a traditional psychiatric patient. Perhaps she is so thoroughly malnourished that a place to clean up and some appropriate vitamin and mineral supplements would be all she needs. The point is that it does not really matter what people guess must be the problem with her. She has her own real state of being and no opinions to the contrary will change that state. Her state must be accurately diagnosed and the woman treated on that basis. What if she was a “wolf child” raised by a mother tiger grieving for the loss of her cub? In her old age there may be nothing that can be done for her other than to put her in a protected environment. From my viewpoint she might be a damnable anomaly, and from your viewpoint she might be the true primal human free of all corruption. But neither of our opinions matter in the face of the fact that nature or the Dao has permitted her existence and neither of us has been appointed as a demigod in charge of handling unusual humans.

When humans encounter situations that do not go smoothly, when humans find themselves being hurtful to others, or find others being hurtful to them, or when counterproductive results

proliferate, there is a need to dispense with fixed concepts and their attached values and see the world anew. Perhaps it will be possible to reconceptualize our universe in a more productive way.²⁰

Zhuang Zi next gives us several examples of human-centered treatments of relative judgments. Elsewhere he has pointed out that judgments such as “huge” in the case of a spider do not fit into the same conversation as judgments about “huge” in the case of clusters of galaxies.

Following his observations on value judgments, he points out that differentiations of any kind are transformations that do not in reality change the Dao:



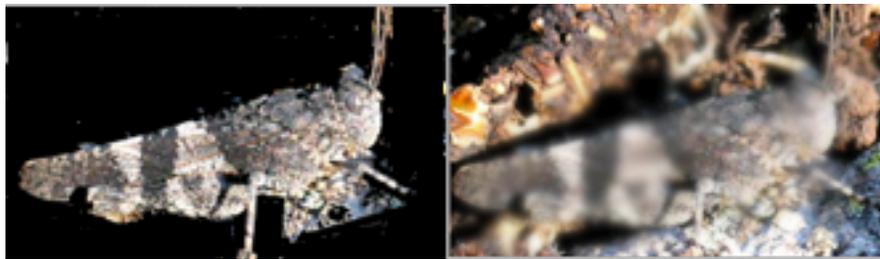
Nothing remains constant in a lava lamp²¹

道通為一。其分也，成也；其成也，毀也。凡物無成與毀，復通為一。

The Dao links them all into a single whole. One thing's division is a completion. Its completion is a destruction. When all creatures have neither a

completion nor a destruction they are once again melded into one.

Speaking of the Dao as actively linking these many discrete individuals into a single whole is a narrative device. Zhuang Zi points out later on that it is really only in human minds that things are cut apart.²² The point is that when human minds apprehend a horse they simultaneously “complete” the horse and destroy the previous unity of what has become “horse” and “not-horse.” Take away all of these creative human mental operations and the Universe is revealed once more as a unity.



Undrawing the lines that divide us²³

惟達者知通為一，為是不用而寓諸庸。庸也者，用也；用也者，通也；通也者，得也；適得而幾矣。Only those who have attained [the final goal] know how to relink everything into a single whole. They employ neither doing nor affirming²⁴ and give things an abode in equilibrium. To maintain equilibrium means to have good function. Good function indicates linking things into one. Linking things into one means getting it. Once you have gotten it, you are almost there.

The process discussed here, carried on until all differentiations are removed, would take away the distinction between self and other. That is why the mystic teacher at the beginning of the chapter says, when coming out of mystic trance, “Just now I lost my **self**.”

Reduce all of the human-made differentiations and one will lose one's self and return to the Dao.

因是已。已而不知其然，謂之道。

Stop at merely depending on "This." Stop and do not know "how it is." This state is spoken of as the Dao.

Zhuang Zi believes that there is something valuable to be learned by observing "this," or "what is," independent of any creative additions by human mentation. He instructs the reader to leave aside making "sense" of the flood of qualia that come in wave after wave of 代 dài (replacements) into consciousness. What is observed in this state is what he and others like him call the Dao.

Zhuang Zi produces a mythical narrative to explain the functions of the mind and the course of development from a mind that makes no discriminations to a mind that is severely disadvantaged by its inappropriate discriminations.

古之人，其知有所至矣。惡乎至？有以為未始有物者，至矣，盡矣，不可以加矣。

The people of antiquity had a point to which their knowledge reached. Where did it reach? It reached back to a stage at which there had not yet begun to be creatures, and that was the farthest, that was the point at which the subject of inquiry was fully exhausted and nothing could be added to it.

Zhuang Zi posits a point in pre-history when the ancestors of today's humans did not have the ability toprehend 物 wù creatures from out of the chaos of qualia with which they were presented. Actually, the ability to identify some kinds of things seems to be common to all creatures complex enough to have

immune systems. Of course, Zhuang Zi had no way to know the facts about immune systems at his early time. It's amazing that he came as close as he did with his image of the "fish traps."

其次以為有物矣，而未始有封也。其次以為有封焉，而未始有是非也。是非之彰也，道之所以虧也。道之所以虧，愛之所以成。

Next there were those who accepted the existence of creatures and yet did not create categories among them. Following that, there was a stage at which there were categories, but there was not yet acceptance and rejection (i.e. value judgments made about them). The manifestation of acceptance and rejection (or affirmation and denial) was the cause of the attenuation of the Dao. The attenuation of the Dao is the cause of the victory of love (or what we more generally call subjective biases).

This discussion follows very closely what has already been established above, but displays it in the form of a historical narrative. Zhuang Zi imagines an early form of human for which each new entity met out in the world was taken to be a unique occurrence. Seeing two camels in a row would not be any different for people at this stage from seeing a camel followed by a water buffalo. When humans began to be able to categorize things, they placed no value judgments upon them. A sheep and a wolf would just be different. Then came the beginning of a period when humans would, e.g., judge sheep as good and wolves as bad. At this point the Dao began to suffer damage because people began to interfere with things based on their subjective judgments and personal preferences. They could, for instance, drive wolves to extinction and only after the fact see the damage they had done to the whole ecology. Some people could get emotionally attached to

causes, e.g., “Save the wolves!” or “Destroy the predators!” and then fight among themselves or with others over these issues.

How should we treat 物 wù (creatures that humans have constituted or fabricated) that are transitory? At one point Socrates was only a fertilized ovum, and at the other end of his life he was an adult dying of hemlock tea. From beginning to end there may not have been a moment of constancy. Every exhalation carries off some carbon that had not long before constituted some minute part of the body. Every inhalation brings in more oxygen to combine with food and perform other needed functions. The body is being continually rebuilt, like a sailing ship being substantially repaired while at sea. The brain continually revises its structure.



A qin²⁵

果且有成與虧乎哉？果且無成與虧乎哉？有成與虧，故昭氏之鼓琴也；無成與虧，故昭氏之不鼓琴也。

Is there really completion and disintegration? Is there really a lack of completion and an absence of disintegration? Since there is completion, there must also be disintegration, and Zhao Shī's playing the qin is one instance of that. Since without there being completion there is also no disintegration, Zhao Shī's not playing the qin is another instance of that.

Anything that starts must finish. The time of Zhao Shī's favorite piece of music and the time of the life of Socrates are different in length. Existence in time implies change and imperfection. Any human endeavor involves some 為 wéi, some application of force. So such actions inevitably break the Daoist ideal of 無為 wú wéi, "non-activity." The more forceful this activity is, the more unintended consequences may be produced. Furthermore, the harder one works at something the faster one's energies will flag, the more quickly one's performance will begin to falter, and the sooner one will be forced to quit. However, details aside, nothing is constant and nothing that is a 物 wù (thing that gets constituted by human creative mentation) will last forever.

There is another kind of difficulty to be explained, a difficulty that occurs when a system of concepts suitable for dealing with discrete entities is used to talk about a single continuum that constitutes the entire universe.

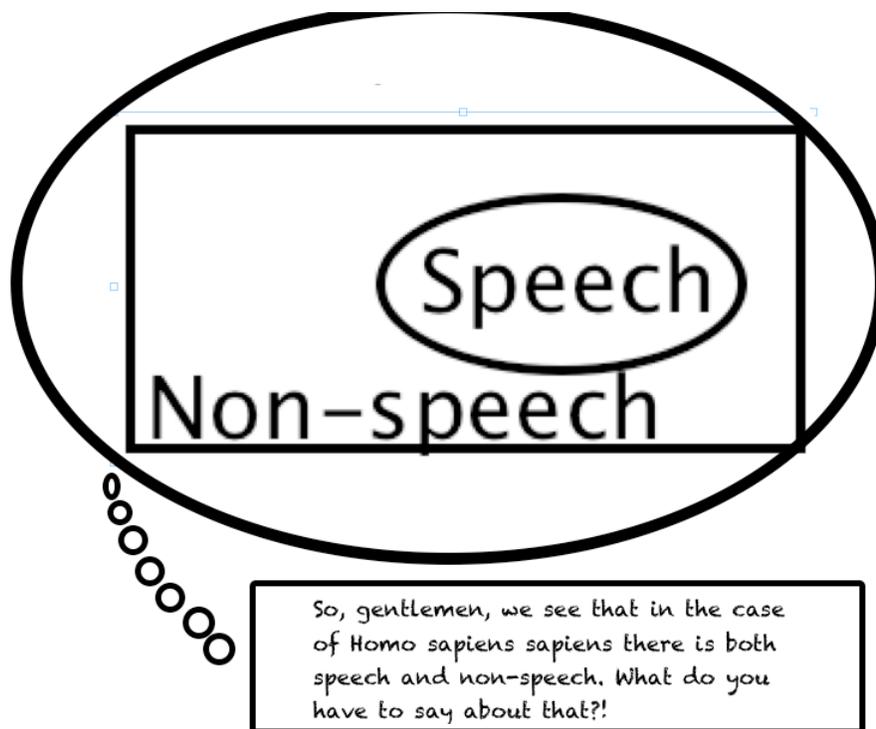
既已為一矣，且得有言乎？既已謂之一矣，且得無言乎？
一與言為二，二與一為三。

Since things have already been rejoined in unity, can there really be speech? Since things have been **declared** to be a unity, then how can there fail to be speech? The unity plus speech are two, and there being two (because

the original unity has been sundered) as well as the underlying unity, there are now three.

The problems of self reference, problems that more recently have challenged Bertrand Russell and others who were interested in working out the formal bases of language, set theory, logic, and mathematics, is already apparent in Zhuang Zi's philosophy.

Speech is one category of things that humans commonly set up, and yet speech is used to explain categories, sets, or whatever one chooses to call them, so there are difficulties built in from the start by issues of self-reference.



Humans talk about speech and non-speech.

自此以往，巧歷不能得，而況其凡乎！故自無適有以至於三，而況自有適有乎！無適焉，因是已。

Even a most skillful calculator would get lost in the multiplicities that follow along in this path, and even more easily confounded would be the ordinary people. So, since from nonexistence there comes existence, and next there are three, then what would happen by starting from existent things to go on to more existent things? It is best not to choose that course and instead to depend on This and let that be the end of it.

The Dao (the undifferentiated aesthetic continuum²⁶) is just there. The individual consciousness just happens. And then the individual consciousness makes a connection, seeing itself as a counterpart to the Dao. That makes three “things.” Just on the basis of this one ego making further divisions, the “myriad creatures,” i.e., all the creatures that we find in our world, will get 制定 zhì dìng (cut into pieces and/or made into artifacts). If humans go beyond this part of the process of the constitution of things (物 wù), it's easy to go overboard on the creation of monsters and myths just by the use of the imagination. It is better to stick to what has an actual experiential referent.

Difficulties also can occur because the creative efforts of human beings are not limited to 物 wù creatures that actually exist. Just trying to be accurate in depicting something that one encounters can lead to troublesome consequences when the Dao mutates the original subject of one's attention. The baby Socrates and the Socrates who drank hemlock tea were and were not the same person. Discussions about the legendary Green Knight²⁷ are even more problematical.

夫道未始有封，言未始有常，為是而有畛也，請言其畛：有左，有右，有倫，有義，有分，有辯，有競，有爭，此之謂八德。六合之外，聖人存而不論；六合

之內，聖人論而不議。春秋經世先王之志，聖人議而不辯。故分也者，有不分也；辯也者，有不辯也。曰：何也？聖人懷之，衆人辯之以相示也。故曰辯也者有不見也。

Now the Dao never was really partitioned off into domains, and words have never been constant. When there comes to be a "This" then there are clear lines of demarcation. I would beg your indulgence and discuss these demarcations. There being left there is then right. There being ranks and stations there are then obligations. There being divisions there are then disputations. There being competition there is then conflict. These are called the "eight acquisitions (i.e., things humans apprehend)." Outside of the bounds of the ordinary world, the sage holds all in his mind and does not make propositions. Inside the bounds of the ordinary world, the sage makes [objective] propositions but does not make value judgments. With regard to the *Spring and Autumn* [Annals], the classics, and the generational records of former kings, the sage makes value judgments yet does not dispute them with others. So with regard to divisions, he does not divide, and with regard to disputations, he does not dispute. Someone has asked what that means. The sage holds things within his bosom, and the masses argue over them in order to distinguish themselves before others. Therefore it is said, "The disputatious fail to see everything."

Notice the deliberately contradictory language. First the author asserts that the Dao has never been divided into discrete entities, and then, when there is a "This," i.e., an ego, there are clear lines of demarkation. For every additional ego, there can be competing

lines of demarkation. The Dao has never been divided, but human minds have divided 物 wù thing from thing in their own mental domains. Knowing that everything is a provisional and relative attempt to deal with an absolute Dao that is unaffected by human preferences, the sage makes different levels of commitment to the creative products of humans.

There is need, therefore, to know when to stop building onto ever-thinner layers of ice.

夫大道不稱，大辯不言，大仁不仁，大廉不嗛，大勇不忮。道昭而不道，言辯而不及，仁常而不成，廉清而不信，勇忮而不成。五者園而幾向方矣，故知止其所不知，至矣。

Now the great way is not mapped by assertions, and the great advocate does not speak. Great benevolence does not favor anyone. A great incorruptibility is traceless. Great courage involves no bravado. The way that dazzles is not the Dao. Words that are argumentative do not reach to the real matter under study. Benevolence that is unvarying does not fulfill its mission. The incorruptibility that is pristine is not to be trusted. Bravery with bravado will not accomplish anything. When these five are pared back, they then approach the Dao. So knowing well how to stop at the edge of what one does not know lies on the highest level.

This part of the *Zhuang Zi* begins to move away from the theoretical or fundamental and into the interactions that occur among humans based on the conceptualizations that they make and uphold.

What is the nature of human actions in response to the environment that do not participate in exuberant optimism about the reliability of one's own mental creations?

孰知不言之辯，不道之道？若有能知，此之謂天府。注焉而不滿，酌焉而不竭，而不知其所由來，此之謂葆光。

Who knows how to conduct disputation without words, to give guidance that does not involve instructions? If there are those who know, then they constitute what could be called the repository of Heaven. Pour water into it and it does not fill up. Decant from it and it does not become exhausted, yet none know its source. This is called the shuttered Brightness.

This passage seems to come quite close to some of the teachings in the *Dao De Jing*. It offers a methodology for those who would, e.g., move from classical physics to Relativity and to Quantum Mechanics.

The foregoing several passages will hopefully be sufficient to illustrate the main points of Zhuang Zi's ideas of being, knowing, and valuing. There remain the material on 指 zhǐ (pronounced "jǐ"), a word that means either "finger," or "to finger, to point out," but gets several extended meanings that are all ambiguously mapped to that single word. There are at least two ways to construe Zhuang Zi's words on fingers and fingering, and ironically they both indicate that the interpretation of the *Zhuang Zi* given above is correct.

APPENDIX: ON POINTERS and POINTING

As a part of the text of the *Zhuang Zi*, the part about 指 zhǐ (fingers or pointers) does not make sense. If, however, it is regarded as a commentary and the intended meaning is figured out from the related passages in the writings of Gong-sun Long, then it turns out that the crux of the matter lies in determining on what basis a pointer is used. For instance, when a police informant fingers somebody as the enforcer of a criminal enterprise, the capability of the informant that the police really require is the ability of the informant to **identify** the enforcer. This is like the question of how the immune system identifies a polio virus.

In Chinese, three different genera of mammals belonging to the same Family are all called 羊 yáng, which as a single character is usually translated as “sheep,” but antelopes and goats are also given membership in that same category. There are both similarities and differences among the three groups, but the individuals in each of these sub-categories are also different. So their “sameness” has a quality of fuzziness that ordinary language does not suggest. Nevertheless, humans the world over have generally agreed that the Family Bovidae is a useful category as is the Subfamily Caprinae. With the discovery of genetics, humans can now justify their more naive classifications with genomic information that makes clearer questions such as whether the antelopes really belong among the Caprinae or should be put in some other Subfamily. In nature, however, there is nothing like a label attached to all individuals sharing a certain generalized genome. The generalized genome and/or the generalized empirical characteristics of the animals constitute, in themselves, the only “labels” that humans could discriminate. And, in the

beginning, humans just saw a goat and another goat and somehow formed the judgment that they should be grouped with each other. Sometimes humans get these judgments wrong as when they group poisonous toadstools with edible mushrooms and end up sick or dead. Humans even occasionally misidentify family members as strangers, or strangers as family members. There is no magical gnoseological sense included in the human genome.

Such is the utility and the power of language that humans begin their philosophical studies in this and related areas by asking, "What is it about all dogs that lets us recognize them as a species?" Plato argued that all humans are built as imperfect copies of something that exists in another world, the world of ideas. Aristotle argued that all creatures can be analyzed their *hyle* (timber, construction material) and their *morphē* (form). The Chinese, for the most part, accepted that there were a pair of cosmic entities called Heaven and Earth that gave birth to or produced the myriad creatures. The most technical they ever got, at least up to around the time of Zhuang Zi, was to distinguish the shape of an entity from the color of that entity and argue about the precedence or relative importance of the two, or whether they remained discrete in something like a brown egg. They did not consider the possibility that the color of something was not a purely empirical characteristic that came into human attention in a pre-labeled way.²⁸

When people began to discover that employing language could be a dangerous activity, they began to investigate it as a kind of philosophical enterprise. There were three groups in China that took language as a special area of interest: (1) The later Mohists, (2) Hui Shi and his followers, and (3) Gong-sun Long-zi. They were at least originally interested in avoiding errors in the practical use of language, but some of their examples became

curiosities, or what we would call paradoxes. Some paradoxes have been very important to our Western pursuit of knowledge about the limitations of language, logic, and set theory.

The logic of the later Mohists is a bit difficult to understand just because the language of the Chinese of their time had not quite grown adequate to easily discuss logical issues and set issues. Nevertheless, the intent of the materials in the *Xiao-qu* chapter of the *Mo Zi* was not to bedazzle but to clarify thought processes and reasoning.

The paradoxes attributed to Hui Shi amount to questions such as, “What is the difference between the definition of a cat and the definition of a black cat?” People who initially did not understand the idea of sets might find that kind of question bewildering or paradoxical, and they might initially have balked at the assertion that, “A black cat is not a cat,” really means that not all cats are black cats because the definitions for “cat” and “black cat” are related but distinguishable. “Black cat” is more restricted than “cat,” so the two terms do not direct the herding together of two identical groups of animals. What these considerations teach us about set theory is valid and important. However, in real life people rarely make practical mistakes of a related nature.

The paradoxes attributed to Gong-sun Long depend on a kind of meta-analysis of conversations. On the phenomenological level, I say, “Why is that man peering into my neighbor’s window?” You say, “Oh, him? He’s the contractor they hired to install storm window.” The meta-level description of such an ordinary conversation is something like this: I issue a couple of pointers and some supplemental words of inquiry. I say “that man” and point at him, and I mention “my neighbor’s window.” This course of action only works if you understand the general meaning of “that man,” and “my neighbor’s window.” Both of these phrases

require a substantial amount of contextual understanding, and they probably also require you to take a look at what is going on around you. A simpler “pointer” action would be to point at something and yell out an inarticulate cry. Your cry and your pointing issues a strong suggestion to other people nearby to look in the direction toward which you are pointing.

So it seems that the person issuing a pointer perceives something of interest and desires to attract some kind of cooperation from others. The speaker issues a pointer. Maybe it is just a scream. Maybe a child just calls out, “Doggie! Doggie!” Maybe a sailor in a crow’s nest calls down a compass bearing and a range, with or without something like “aircraft carrier” or something even more specific. People who hear and cooperate in this process look for the announced item of concern.



Pointers can be issued in a number of ways. Road signs with arrows can announce a source of water or fuel ahead, for instance. There are also natural signs that perform much the same function, although they are usually found in the vicinity of the event of interest, e.g., smoke rising up from a fire.

The pointer is an element of some modern computer languages and there are even pointers to pointers, called “handles.” They are easy to use and do not often result in any situations that might loosely be called paradoxes.

There are several worthwhile articles on the paradoxes attributed to Gong-sun Long. Among them, the dissertation by Lisa Indraccolo is the most complete. It appears to me that the discussion in the *Zhuang Zi* that starts with what seems to be a version of one of Gong-sun Long's paradoxes is an intrusion from a commentary on the *Zhuang Zi* or from some other source.

Indracolla, 141/233, distinguishes four different meanings for the single word 指 *zhǐ* (pointer) appearing in the ancient texts:

- 指 : the theoretical act of pointing, pointing as such, as an object of thought; potential pointing, or the “act of reference”;
- 指物 : pointees; things pointed at, that are object of the concrete act of pointing in action, or “objects of reference”: the modification produced in *wu* after having been reached effectively by *zhi*;
- 物指 : the denomination attached to things which is the result of the pointing coming in contact with things.

Indracolla continues:

I would like to add one more clarification and to draw attention on a fundamental issue that has been so long overlooked, that is the fundamental difference between *zhi* and *zhi* in action. In fact, *zhi* as such, as the act of pointing in itself, can be a conceptual object, so it exists in the world and can be pointed at, though it is not a concrete tangible object. However, there remains something obscure about the very nature of the act of *zhi* as such: though theoretically it can be an object of reference, at the same time it is still different somehow from other things as seemingly it cannot point to itself, which means that

potentially it can acquire the status of object of reference, but in reality it cannot since it can't be pointed at. This sounds like Russel's famous paradox of the barber who shaves anybody in the village who doesn't shave himself!

Indracolla, 147/233, translates the beginning of Gong-sun Lun's 指物論 *zhǐ wù lùn*, *Discourse on Pointers*, as follows:

1) 物莫非指,而指非指。

Translation

No thing is not the same as its pointee, and pointing as such is no pointing (at things).

Comment

In order to become a “thing”, the indifferentiated (*sic*) mass of things must undergo our process of pointing, as only after having been pointed at – and out – and individualized, can we talk of *a* thing: in our mind every thing corresponds to a thing-for-us, since it is the only form *wu* can assume that we can understand and know; thus for us *wu* are always *zhiwu*, pointees, things pointed at. As far as the second half of the sentence is concerned, as we know already the act of pointing as such is not the same as when it is activated and is no more an object but a process in motion involving also a relationship with *wu*.

If this is what Gong-sun Long meant, then it fits in with everything said in my earlier discussion about mentation in the *Zhuang Zi*. Indracolla is affirming that there is a something that is the counterpart to a mind, something that is initially not differentiated, and that we can deal with mentally only by an operation that both individuates and points at (and in doing so

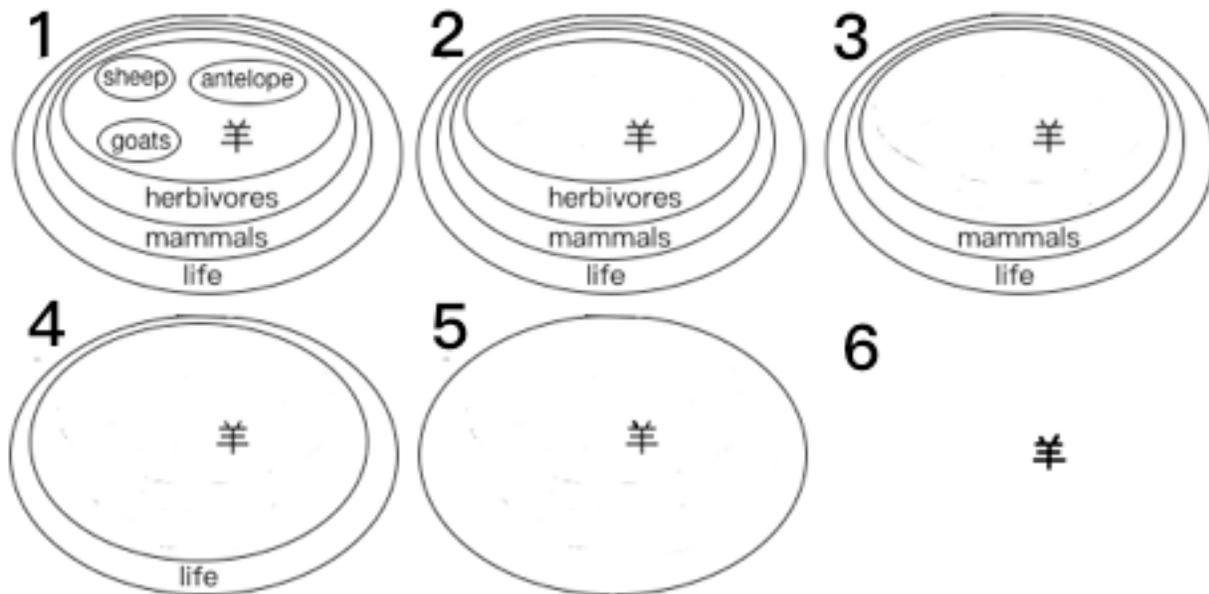
constitutes) what is called a 物 wù, i.e., a thing, a creature, an object-for-oneself.

Zhuang Zi was not a follower of Hui Shi or the other Logicians; it was his intention to subvert them. He valued Hui Shi because he brought up so many problems and was an intelligent critic of Zhuang Zi's own ideas. There is no reason to conclude that he accepted Hui Shi's naive acceptance of the 物 wù, e.g., black horses, white horses, horses in general, that most other people also accepted. Much less did he accept the dogmatic assertions of the Mohists or the Confucians.

To keep matters clear and relatively easy to understand, I will treat the first and second interpretations of the passage in Zhuang Zi about "pointers not being pointers" in terms of Venn diagrams. I am going to assume that there is no problem with saying that if there is a set defined in the universe, then that set can easily have a pointer directed toward it. To put that in the simplest of terms, if there is a set of things called electrons in the universe, then anyone who knows what to look for can point another person at some instance of the word or concept "electron" and get that person to experience the same thing.

Consider the first, and I think the more likely and more straightforward, interpretation of Zhuang Zi's dictum about pointers. It would appear that selecting horses to use in the example was not a random choice but goes along with Hui Shi's claim that a white horse is not a horse. Hui Shi's point was that the set membership of "white horse" is smaller than but contained within the set membership of "horse."

Consider the Chinese term 羊 yáng. It turns out to name a set that includes what we call antelopes, goats, and sheep in English (1).



The Chinese people get along fine with one name for the most part, so let's just get rid of the subsets of 羊 yáng, Caprinae (2). And then we do not really want to discriminate the Caprinae, so let's remove that sub-set. It would leave us with the herbivores, but that's too long and 羊 yáng has lost its original meaning anyway, so let's just borrow it (3). Then we should get rid of that divisive term "mammals," so we'll erase that boundary and, as we did before, we might as well just call what is left 羊 yáng (4). And so we can wipe out that discriminatory line of demarcation between "life" and 羊 yáng, and, as before we can simply call everything that is alive 羊 yáng (5). One name is as good as the other, after all. Then we still have the annoying issue of animate versus inanimate, so we can remove that last pesky boundary and call everything in the universe 羊 yáng (6). Of course Zhuang Zi wanted to call everything in the universe 馬 mǎ (horse), and that is acceptable as well.

天地一指也，萬物一馬也。

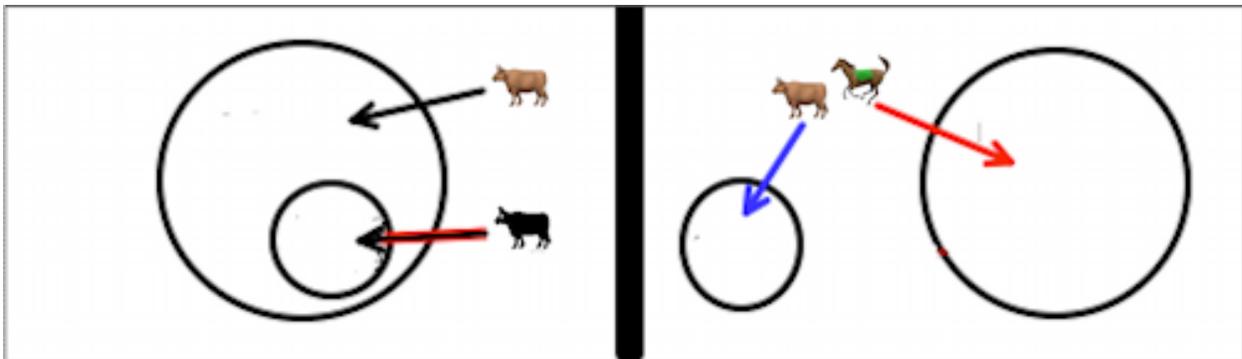
Heaven-and-Earth [i.e., the Universe] is [indicated by] one pointer (i.e., universal). The myriad creatures is one "horse" (i.e., particular).

If everything in the universe has been reduced to a single "horse," there there would need to be only one pointer to select it for anyone's attention.

A little earlier in the text it says:

以指喻指之非指，不若以非指喻指之非指也；以馬喻馬之非馬，不若以非馬喻馬之非馬也。

Taking a pointer [to something like "horse"] to use as an example in explaining that pointers [to sub-sets] are not pointers [to their supersets] is not as good as taking a pointer [that doesn't point to your subject of inquiry] to explain why pointers [to sub-sets] are not a pointers [to supersets]. To take a "horse" (set definition) to demonstrate that [a white] horse (set definition) is not the same as a horse (set definition) is not as good as taking a not-horse (set definition) to demonstrate that [a white] horse (set definition) is not a horse (definition).²⁹



A cow pointer and a black cow pointer vs. a horse pointer and a cow pointer

Suppose that someone wanted to demonstrate that a black cow is not a cow [of unspecified color]. One would look at where the pointers for “cow” and for “black cow” direct them to be assembled, and see that the one for “cow of unspecified color” would point at the black cows and any other color of cow, but that the one for “black cow” would not point at cows of any other color. (See the left half of the above diagram.)

Because there were people who argued about whether riding a horse of a certain color was riding a horse, and others who argued that a white horse is not a horse, then moving the discussion away from a set and its subset would tend to show people how trivial the great paradox actually is. A horse pointer points at one group of animals and a cow pointer points at a different group. This argument proposed by Zhuang Zi was a direct dig at Hui Shr. Even children have no problem in mentally distinguishing, e.g., rotten fruit from fruit in general. Telling us, “Rotten fruit is not fruit,” will, in the real world, elicit the unimpressed response, “I know what you mean.”

If you follow the argument of Lisa Indracolla, the subject of pointers gets a very special kind of interpretation. Here are some points taken from her dissertation on the thought of Gong-sun Long, an early logician. She quotes brief passages from the Chinese and then gives translations followed by comments:

1) 物莫非指,而指非指。

Translation

No thing is not the same as its pointee, and pointing as such is no pointing (at things).

Comment

In order to become a “thing”, the indifferentiated (sic) mass of things must undergo our process of pointing, as only after having been pointed at - and out - and individualized, can we talk of a thing: in our mind every thing correspond to a thing-for-us, since it is the only form wu can assume that we can understand and know; thus for us wu are always zhiwu, pointees, things pointed at. As far as the second half of the sentence is concerned, as we know already the act of pointing as such is not the same as when it is activated and is no more an object but a process in motion involving also a relationship with wu.

Indracolla distinguishes four different meanings for 指 zhǐ (finger). Unfortunately, it requires some reading between the lines to clarify what the word “pointing” refers to in each occurrence in her translation of the Chinese text. Similarly, the word 非 fēi has a technical sense in these discussions that Indracolla has discussed, yet she uses it in English here as simply meaning “not.”

To correct Indracolla’s translation, note that the contrary of, “No thing is not the same as its pointee,” would be, “All things are the same as their pointee,” or, in more colloquial English, “All things are the same as their referents,” which is nonsense.

A horse becomes a horse because somebody prehends it as a horse. A horse come into existence (from *ex sistere* “take a

stand.”), a standing out from the background undifferentiated *quale* (the plural for this word is *qualia*), because someone points at it or mentally differentiates it from the background chaos. So the word “its” in the sentence, “No thing is not the same as its pointee,” is an anachronism. There was not a thing at one time and a pointee at another time that depends for its existence on the pointed-out thing. Neither was there a pointee in the beginning that then itself called into existence some horse or other thing later on. Instead, there was first an ego that looked out at the world and simultaneously pointed at a horse and differentiated it from its background.

Rather than claiming, “No thing is not the same as its pointee,” the intent was to say that, 物莫非指 (creature none-such-that alienated from [the related] act-of-pointing), “No 物 wù thing can be unrelated to a corresponding act of pointing.”

The whole sentence is, “物莫非指,而指非指.” “No thing can fail to be related to a corresponding act of pointing, and the act of pointing, a (mind to object) pointer, and the objected pointed at are all different from [but related to] each other.” (I’ve expanded this sentence slightly because I am uncertain which two of the three possibilities were on Gong-sun Lun’s mind when he wrote the Chinese sentence.)

Go back to the passage in the Zhuang Zi to try to interpret it according what what has been gleaned from the *Gong-sun Long-zi*.

以指喻指之非指，不若以非指喻指之非指也；
以馬喻馬之非馬，不若以非馬喻馬之非馬也

Using an act of pointing to demonstrate the act of pointing's being different from [but related to] the objected pointed out is not as good as using something that is different from an act of pointing (or an irrelevant act of pointing) to demonstrate the act of pointing's being different from [but related to] the objected pointed out.

Using the act of pointing out a horse to demonstrate that the act of pointing out a horse is not the same as [but still is related to] the horse that is pointed out is not as good as using the act of pointing out a non-horse to demonstrate that the act of pointing out a horse is not the same as [but still is related to] the horse that is pointed out.

or maybe it is supposed to be:

Using an object pointed out to demonstrate the act of pointing's being different from [but related to] the object pointed out is not as good as using something that is different from an object pointed out (or an irrelevant objected pointed out) to demonstrate the act of pointing's being different from [but related to] the object pointed out.

Using a pointed-out horse to demonstrate that pointing out a horse is different from [but related to] the horse being pointed out is not as good as using a pointed out non-horse to demonstrate the act of pointing out a horse is different from [but related to] the horse being pointed out.

Personally, I cannot see any new insights to be gained by carrying out this analysis when the most significant part of the process has been left undiscussed by Gong-sun Long and only alluded to by Indracolla. And, in fact, a thorough knowledge of modern logic and set theory still does not get at the central question of how the act of pointing occurs and what that has to say about the ontological status of what Indracolla clearly demonstrates 物 wù to be: **quasi-entities that get their identities by being pointed out by humans.**³⁰ That is the main thing that Zhuang Zi takes as his point of departure: There are **no entities** such as people naively assume there to be. If you believe that there are, you are likely to go bonkers asking yourself whether a dog with one amputated leg is a dog.



Red-hatted soldiers³¹

A “creature” such as a horse is literally created by humans in the sense that, without being prehended by a mind nothing “stands out” or exists. Humansprehend something they call a “soldier plant” (*Cladonia cristatella*), and they more generally identify it as a lichen. In doing so they assume it to be a single discrete red-capped plant, and in doing so they are wrong. Nevertheless, what is really the combination of two kinds of symbiotic creatures continue to function in their symbiotic way regardless of how badly humans misunderstand and misconceptualize them.

A creature exists or stands out from the undifferentiated background qualia because of an action of mind, but that does not imply that nothing would be happening in the absence of human intervention.



Humans may see a clonal grove of quaking aspens³² as many separate organisms when it is in fact one tree with a common root system and very many trunks. The human conceptualization of the system may be wrong, but that fact does not influence the success of the organism. Sometimes humans conceptualize things badly and can suffer damage because of their failure to see things in a more accurate and useful way. Sometimes humans conceptualize things so well that they may, e.g., believe that Newtonian physics has brought human search for knowledge of the physical universe to perfection. Even quantum mechanics, which has been put to the test so many times and in so many ways that it is regarded as the most highly reliable knowledge possessed by humans, is still a useful fiction, an artifact of human intelligence.

In is the process by which humans create their concepts that Zhuang Zi is concerned to illuminate.

When humans take their mental creations to be realities strange conclusions can be reached, e.g., St. Anselm's argument that God must exist because He can be conceptualized, and anything that can be conceptualized must exist.³³

Appendix: How Zhuang Zi Sees the Act of Prehension by which Creatures Are Constituted

In Chapter 26, Zhuang Zi tips us off to an idea of extreme utility. Like his mere mention of the fact that the color of the sky is not due to a blue dome but instead due to the extreme depth of the atmosphere in which we live, he does not dwell at any length on this analogy. Nevertheless, it is very important.

During the period from 1960 to 1962, I had many lively conversations with a biology major in our group house near Stanford. Patrick Milburn was an extremely dedicated student of biology because he felt that it was vitally important that the citizens of the world begin to recycle their resources. He likened what he had in mind to the mythical serpent called Ouroboros³⁴ that consumes its own tail. But he was also interested in the brain and how it functions. I came at this problem from having been a physics major, and of course he came at it from his knowledge of his own field.

We both had the idea, which certainly was not a startling new discovery, that light, sound, etc. leave things in the outside world and impinge on human sense organs. From there it was already quite clear that information is transmitted via the nervous system to the brain. What happens after that is not at all clear.

One of my philosophy professors, Donald Davidson, had argued persuasively that imagining the existence of a television screen in the mind being viewed by a little man who lives there does not get us anywhere. "So what?" he would inquire. "If the little man watches the television screen, then what happens? If there is an even smaller man in the little man's mind that watches a microscopic television screen that is in there too, then we are immediately involved in infinite regress."

Try as we might, neither Milburn nor I could figure out what was to be gained by having, e.g., the image of an elephant in our brains. Let us say that it is under ordinary circumstances a good image, and that furthermore with additional effort we could make it about as true to the original as we might wish. So what? What does the brain or the mind do to that image that allows it to process any information. Suppose I also have a good image of a rhinoceros in my mind at the same time. How can I compare and contrast this pair of three-dimensional images? I think that at that early time I already had some idea of the image of an elephant having a physical location in the brain, and that to do anything with that image some other brain function or functions would have to approach that mental/physical object in the brain with the mental/physical equivalent of tools that would probe its surface and, e.g., be able to compare its length to the length of a rhinoceros. However, it had probably occurred to me that I could do the same thing by using tape measures and things of that sort on the real animals, but that I could not form any idea whatsoever of any sort of measuring tool that could operate inside my brain or inside my mind.

I was stuck on the question, “What operation can the mind perform on a representation of something that exists in the mind?” until several years later when I was taking a course on the *Zhuang Zi* from Wang Shu-min of National Taiwan University and also working on my master’s dissertation on 莊子內篇思想, the *Thought of the Inner Chapters of the Zhuang Zi*. I was mulling over the following passage when I realized I had the answer that Milburn and I had been seeking back around 1960.

荃³⁵者所以在魚，得魚而忘荃；蹄者所以在兔，得兔而忘蹄；言者所以在意，得意而忘言。吾安得夫忘言之人而與之言哉！

The objective of a fish trap is fish. Once you have caught the fish you can forget about the trap. The objective of a snare is rabbits. Once you have caught a rabbit you can forget about the snare. The purpose of words is to specify a meaning. Once you have specified a meaning you can forget about the words. How can I find people who have forgotten about words and have a word with them?

I vividly remember encountering a thing for which I had no “fish trap.”: It was a long string of stem-line stuff with tendrils coming off of it and attaching to some low-growing greenery in the plant nursery where I had a summer job. It had not the least bit of green, no leaves, but it did have flowers. It looked thoroughly unnatural to me, and it obviously was parasitizing the ordinary vegetation. So I took it upon myself to thoroughly extirpate this alien creature. I even entertained the thought that it might have come from Mars. I made sure that there was not a scrap of it left, and nothing that it had parasitized remained either. Then I set off to tell the owner that his nursery had been invaded by some evil stuff. I took a sample along with me.

He wasn't at all upset. He told me that the weed I'd killed was called dodder. Evidently he'd seen it before and he wasn't worried that his nursery would die down to the roots. He usually gave me a ride to the bus station back to Philadelphia at the end of the day, and on this day he thanked me for the thorough job of weeding I had done. I could tell that he was amused. I had spent at least an hour scraping an area that was probably 5 feet by 20 feet down to bare earth when it would have been enough to have pulled the dodder out by hand. So he'd paid me for an hour of wasted work, but he didn't get angry. Here is a photo of another kind of dodder, a kind of vegetable octopus draining the life out of the green plants.



Alien invader?³⁶

When faced with this novel stimulus, my mind had reached out and created a kind of net or “fish trap” that was designed to mentally detach the dodder from the green vegetation, restricting its main body plan to a connected set of long vine-like stems with tendrils and the occasional flower. Once I had that fish trap constructed in my mind, I might have elaborated it but I have never forgotten it. Once I learned a name for the stuff I had a quick way to talk about it with other people. And what I had, at that point anyway, was entirely a sort of mapping of its external characteristics. There was no part of the fish trap that had details about whether a stem, when cut, would show yearly growth rings, nor was there any other sort of internal details.

Note that the fish trap that I made for this parasite was not something that I retrieved from some Platonic realm. It was not something that I had been taught by other people. In the early states of my encounter with this stuff I might have been convinced that it was some kind of plastic monofilament to which were attached plastic flowers and tendrils. But further investigation showed that the tendrils were growing into the green plants, that the long stringy stuff was much more like a grape vine than a plastic straw or monofilament fishing line. Regardless of whether

it was this discovery or any other encounter with a novel thing, the fact is that my mind reached out and put a certain construction on what I saw. Somebody else might have put a much different construction on the same plants. Since the tendrils of the dodder had grown into the stems of the green plants, somebody might have considered them all a single entity. I instinctively hated the stuff because I recognized it as alien and as a parasite. Somebody else might have loved it because they loved mistletoe and saw that at least functionally the two kinds of plants are similar. Furthermore, the next day I might have seen some more dodder, but dodder of another species, and in my nearly complete ignorance of parasitic plant life I might have affirmed that the two samples of dodder were the same genus and species.



Which one is deadly?³⁷

Under some circumstances humans need to form very highly discriminative fish traps — the first plant pictured above is the source of the hemlock tea that killed Socrates, and the second picture shows a kind of wild carrot that is harmless.

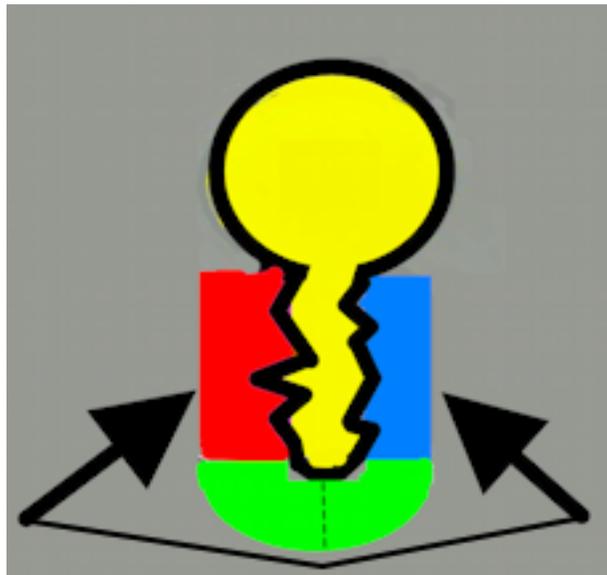
It is interesting that life systems seem to be usefully conservative in the sense that once something is evolved that works very well, an analog of it may reappear at a higher level of development. Whether this kind of repetition is entirely accidental is, at present, unknown.

The earliest life forms that were able to protect themselves did so by means of a kind of fish trap that is ubiquitous among living beings. These biological fish traps are biochemical in nature. They have been tailored through evolution to identify specific molecular shapes, particularly those that characterize various kinds of disease microbes.

Here is a picture³⁸ of an antigen, represented by the black figure in the middle, being grasped by two domains of an antibody, represented by lighter and darker shades of gray. The grasping action of performed as a result of the two domains changing from an open configuration to a closed configuration.



Typically, antigens are identified by some surface feature that is characteristic of its kind. In the following schematic diagram, the antigen is colored yellow, the two lobes of the antibody used for identification purposes are colored red and blue, and the green part identifies the remainder of the antibody that contains mechanisms for actions that will be released whenever the identification domains close in on an antigen (represented by the black arrows).

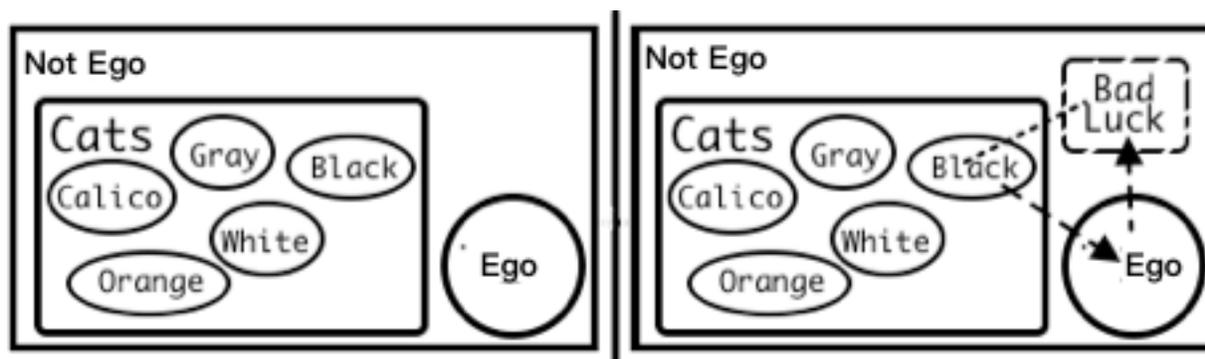


Note that a relatively simple molecular system independently identifies an intruder and also does something to counter it, e.g., release histamine into its surroundings.³⁹

In the passage from the Zhuang Zi quoted above, 意 yì means intention and the active searching capability of the mind as well as meaning. Zhuang Zi says, “可以意致者，物之精也。” “Those things that can [only] be handled mentally are the subtle among things.” A fish trap is something that reaches out into the sea and grabs a fish. This is a very instructive image because it offers an answer to the question of how the mind proceeds to recognize things. Here, Zhuang Zi implies that there are non-physical objects of thought

that can only be apprehended mentally. One such thing might be a mathematical circle, for instance.

Once one has made a fish trap for the self, one can begin to subdivide the part of the total field of experience into subdivisions of the Other.⁴⁰ What directs this process is difficult to identify. “The hundred bones, the nine orifices, the six internal organs, are all complete in themselves. To which of them should I give preference?” Whatever kinds of fish traps people make for themselves, they may be found adequate or they may cause problems. Furthermore, this process is within the scope of the individual limitations of human beings, yet humans most often are taught to make these fish traps by their parents or other members of their community. Part of this process includes attaching words or sign-language references for these communally accepted fish traps. After there are identifications in the mind of a child, e.g., cats and dogs, and then white cats, grey cats, orange or taffy color cats, calico cats, etc., one can be taught values and superstitions, e.g., by adding the “tag” for bad luck to the black cats.⁴¹



In addition to a general emotional reaction to black cats, which in some cases may not be accompanied by any intellectual awareness of why dread is occasioned by black cats and just amounts to a learned aversion to black cats, humans often attach a detailed “rap sheet” to the targets of their prejudices. The story associated with black cats may include mention of things that are of dubious ontological status and events for which there exists no good

evidence, e.g., that black cats are the servants or familiars of witches, demons, Satan, or whatever. The “bad luck” tag or the “bad luck rap sheet” is something that is even more of a construct, or perhaps one should call them fabrications, than the original construction of a selection mechanism (fish trap) for cats. If somebody wants to argue that a three-legged cat is a cat, then the parties to that discussion can at least observe and document that the places where the three-legged animal fits the fish trap for cats and where it leaves a gap.

If somebody maintains that, e.g., “Black cats are the creatures of Satan,” there is no evidentiary test to disprove this assertion, and thus far Satan has not come forward to assert ownership. People who agree with that thesis can elaborate their views on black cats being bad luck, black cats being the familiars of various satanic forces, and gradually construct an internally consistent fantasy world having its sole connection to the real world through cats of a certain color. The more elaborate the net of fictive connections, the more self-supporting this dream world may seem to those who let it start controlling their behavior with the real world, their community, their parents, and their children. So Zhuang Zi says:

夫隨其成心而師之，誰獨且無師乎！
Should one take his preconceptions as his authority,
then who would fail to have an authority [by which to
justify his beliefs]?

There are obvious cases where people makes mistakes and they later either see for themselves where they have gone wrong or other people may correct their picture of the world for them. Nevertheless, humans are a species that owes its success largely to the ability to conceptualize the world in ways that do not lead to too many problems and generally provide helpful guidance. So words and concepts have a domain that fluctuates somewhere between total nonsense and a true representation of reality, and Zhuang Zi asks, “Is there a difference between words and the cheeping of nestling birds or is there not?”

Let discussion be restricted to the world of concepts and the words that humans use to name them (a circle is the same geometrical figure recognized in most if not all cultures, and there are different words for it, but there is nothing such as a Frisian circle. The words are the different, but the concept is the same). Zhuang Zi asks, “How are words obscured so that distinctions between true and false⁴² come to be?”

Problems can develop at different levels. At the fundamental level, the human mind reaches out and prehends something. Perhaps it mentally draws lines (surfaces, really) around *Cladonia cristatella* and calls the stuff contained within each envelope or fish trap a “soldier plant.” *Cladonia cristatella* is not a plant. It is composed of at least two different kinds of symbiotic organisms. It is a lichen. Several spires that resemble soldiers with red hats may have no boundaries between them. Instead, they may have a common foundation in the part that grows attached to some stable bit of debris near the top surface of a piece of land. Saying that a field of it is composed of soldier plants may be good enough for deciding where reindeer are to be pastured, but since microscopes have been used to see the lichen’s inner structure that old conceptualization of *Cladonia cristatella* has been considered inadequate. The term “red-capped soldiers” might actually be acceptable, but only if it were to be connected to the correct concept.

In addition to prehending or “fish trapping” lichens or whatever from out of the background of the continuous visual field or the continuous field of human experience, the use that humans make of statements about lichens, moss, organisms that use photosynthesis, etc., can become faulty if logical mistakes are made. Some followers of Mo Di, most often called the later Mohists, developed concepts that would be familiar to a student of a modern beginning course on logic and sets. But Zhuang Zi also saw that difficulties can accrue rapidly when humans start to attach value “tags” to the individualized parts of their world. Does behavior intended to regulate the interactions among wolves and

humans really benefit when the wolves are tagged as “evil brutes” and made the villains of fairy tales told to children? Are arguments really improved when the results gained by using one argument cast an approving light on oneself and one’s group, or when those results may make oneself or one’s group look bad?

At this point, about one fifth into the “Qi Wu Lun,” Zhuang Zi begins a review and systematization of the process of forming a conceptual world in an attempt to mentally model the real universe.

His first point should come as no great surprise because he has said things already that imply his contention that, “There is no creature that is not a ‘That’ and no creature that is not a ‘This.’” In a Venn diagram it is possible to model what happens when some part of the universe come to awareness of itself, a something-or-other that perceives a world outside of itself by drawing a circle. The moment that circle is completed it has an inside and an outside.

There is no way to draw a set definition on the universe, or to select an amoeba from a messy background view in a microscope, without saying immediately that apart from **this** thing there is a **that**, “that” is everything that “this” is not. In addition, everything that get prehended as a “this” can also be outside something that also gets prehended as a “this” by someone else, making the first one a “that” from the second perception. For everyone else who says, “I am,” I myself am another. I am an other.

From a dynamic perspective, however, one thing can gradually dwindle out of existence, and something else can replace it. If some constructs a house out of a big pile of bricks, the brick pile dwindles into non-existence as the house gradually rises in its place. If someone declares that only writing with the right hand is proper, then at the same time writing with the left hand is made improper. If you make a “this kind of thing” out of a “that kind of thing,” then you have to depend on making changes both in this

and in that. For the most part, Zhuang Zi's view of change in the universe is in agreement of recent Western ideas of the conservation of matter.

On p. 178 of my translation, Zhuang Zi says something that appears to be very significant about what remains when all the human-created distinctions among what we have learned to regard as creatures are cast aside. He says that the sage casts vision on whatever remains "in their natural state," or perhaps it should really be, "in its natural state." He implies that there is an awareness that persists after there is no longer any distinction between self and other. And he says of this other kind of awareness, "To do so also depends on This."

If an individual suddenly loses the demarcation between self and other, he or she is no longer exists as an individual, as a person. But it seems that Zhuang Zi believes that awareness persists. If that is so it must be something more like the awareness a human has of his or her body. A pain in one's foot is perceived "from the inside," not as something that passes into the brain by way of light, sound, etc. being received by sense organs. The unindividuated perceiver then is some kind of a This. Zhuang Zi says:

In depending on This, one is also depending on That, and in depending on That, one is also depending on This. Therefore the sage does not draw on these distinctions and instead casts vision on them in their natural state. To do so also depends on This.

Zhuang Zi then reinforces his argument by going back over old grounds with self and other, this and that, and the idea that when one establishes any kind of creature or category of creatures one also creates the complement of this set. To that he adds the idea that he has made elsewhere, that affirmations (made about all the different creatures in an individuated universe) and denials (made

about those same discrete individuals) constitute a limitless number of statements that could be made. Ultimately, there is no way to respond to an infinite series of statements that could either be true or false. So Zhuang Zi's recommendation is to go back to the undifferentiated universe upon which the individual human has placed constructions, made up narratives, etc., and see what this undifferentiated continuum of sense experience looks like in its raw form.

Conclusion

A sterile dependence on words and concepts, the tools of thought that had separated the followers of Mo Zi and Confucius for generations, would have been inconsistent with the general thrust of the *Zhuang Zi*. Isolating 物 wù creatures by an act of will or intention (意 yì) is fundamental to thinking. The thing that one creates by one's power of conceptualization is one's own. Once one learns a language, most of this primary level of experience that one understands by using the concepts that one has created can be mapped onto language. Most of the primary-level things (e.g., self as a discrete entity vs. others as discrete entities) can be mapped onto language, and they can be handled by means of narratives, logic, and set theory.⁴³ What was experience without words, e.g., that one bundle of qualia that one recognizes as a quasi-permanent feature of one's experience, cannot move through or occupy the same location as another qualia that one also recognizes as a quasi-permanent "thing," and that limitation on co-locality can be expressed in words and the phenomena experienced can be conveyed in linguistic form to other people.

Zhuang Zi distrusts and wants to subvert the arrogant use of language. Language is a beneficial tool if used in a way that respects its origins in pure experience and its potential contamination by taking on wholesale the socially accepted dossier that accompanies socially constructed creatures such as "angry black man."

Implicit in Zhuang Zi teaching is the realization that the 物 wù creature that one creates may have been inappropriate all along, and when the universe shows a new side of itself the old 物 wù may have to be replaced. Early examples were discoveries in natural science such as lichens not simply being plants. Later examples created great consternation when Newtonian physics reached the limits of its applicability. Suddenly light could not be forced to accept the human idea that it was something like sound waves or water waves, and it also could not be forced to accept the interpretation of its behavior that said it consists of particles. Suddenly velocities could be additive as long as they remained low but when they became high their sum could not exceed the speed of light. Werner Heisenberg gives a very clear picture of a long period of intense psychological discomfort wherein he knew that the then-current picture of subatomic events was strongly inconsistent with what was coming out of the laboratories and would have to be changed, but he had no way of imagining where and how the classical picture could actually be changed. The old ways of thinking about things were strongly resistant to change, and attempts to change them resulted in great discomfort.

The ability to give up preconceptions, to reencounter the unstructured, the unconstructed, primal view of the universe without any of the human-supplied boundaries, and then to run through other ways of using concepts to make a world and to understand it, is an essential ability in a turbulent and dangerous world.

¹ For the convenience of those who have not mastered pinyin romanization, I have borrowed the spelling used in Yale romanization (where zhi would be written jr), but instead of using a regular “r,” substituting a “r” in compromise. “Shr” is not to be pronounced like “she.” Instead, it sounds like the beginning of “sherbet.”

² Instead of “pointer,” one could also use the word “finger.”

³ Lisa Indraccolo, Gongsun Long and the *Gongsun Longzi: authorship and textual variation in a multilayered text*. Accessed August 2017: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1002.6534&rep=rep1&type=pdf>

⁴ Jill Bolte Taylor, *My Stroke of Insight*, p.116.

⁵ Jill Bolte Taylor, *My Stroke of Insight*, p. 38f, gives an interesting report on her awareness of processes going on in the body of which we normally are not aware.

⁶ Jill Bolte Taylor, *My Stroke of Insight*, p. 102f. When her mother was teaching her to do jigsaw puzzles she noted that Jill was missing obvious cues, and said, “Jill, you can use color as a clue.” It took Jill Bolte Taylor a while to find remembered information about this thing called color in her memories, and then “like a lightbulb going off in my head, I could suddenly see color!” And just below, she continues, “It still blows my mind (so to speak) that I could not see color until I was told that color was a tool I could use.... I found the same to be true for seeing in three dimensions.... I had to be taught that items, which are positioned behind other items, may have some of their parts hidden, and that I could make assumptions about the shapes of things that I could not see in their entirety.”

⁷ Jill Bolte Taylor, *My Stroke of Insight*, p. 41, gives her personal testimony of this undifferentiated continuum of *qualia* that occurred as the language center (conceptualization center) of her brain shut down:

The harder I tried to concentrate, the more fleeting my ideas seemed to be. ... I met a growing sense of peace. In place of that constant chatter that had attached me to the details of my life, I felt enfolded by a blanket of tranquil euphoria.... As the language centers in my left hemisphere grew increasingly silent and I became detached from the memories of my life, I was comforted by an expanding sense of grace. In this void of higher cognition and details pertaining to my normal life, my consciousness soared into an all-knowingness, a ‘being at *one*’ with the universe, if you will. In a compelling sort of way, it felt like the good road home and I liked it.

By this point I had lost touch with much of the physical three-dimensional reality that surrounded me. My body was propped up against the shower wall and I found it odd that I was aware that I could no longer clearly discern the physical boundaries of where I began and where I ended. I sensed the composition of my being as that of a fluid rather than that of a solid. I no longer perceived myself as a whole object separate from everything. Instead, I now blended in with the space and flow around me....

⁸ Experienced time is another result of conceptualization. Without conceptualization, one has no perceived location in time. Then and now are not distinguished. Jill Bolte Taylor, *My Stroke of Insight*, p. 49, describes her experience of this timelessness, but for her it was a lack of continuity. “Instead of a continuous flow of experience that could be divided into past, present, and future, every moment seemed to exist in perfect isolation.”

⁹ Jill Bolte Taylor, *My Stroke of Insight*, p. 69 indicates what one would experience if this process of establishing self and other were reversed: “In the absence of the normal functioning of my left orientation association area, my perception of my physical boundaries was no longer limited to where my skin met air. I felt like a genie liberated from its bottle.”

¹⁰ Jill Bolte Taylor, *My Stroke of Insight*, p. 72, comments on what experience is like if the process individuation is reversed or put aside: “In this state of mind I could not perceive three-dimensionality. Nothing stood out as being closer or farther away.... In addition, color did not register to my brain as color. I simply could not distinguish it.”

¹¹ See Jill Bolte Taylor, *My Stroke of Insight*, p. 50f, for her experiences with losing temporal sequence as a consequence of the deterioration of function of her language center. She felt disconnected from life and in a state that she suspected must be what the Buddhists would call Nirvana. “Time stood still because that clock that would sit and tick in the back of my left brain, that clock that helped me establish linearity between my thoughts, was now silent.”

¹² A “fish trap” is any device that is an analog of a hollow mold of something (1) that will only close successfully around that thing or that class of things, and (2) that in closing successfully releases some action. An example might be a kind of trap that will not close around flounders, cod, or any kind of fish other than lion fish, and that, after having closed, pops up a signal float so that the invasive species control officer can retrieve the trap and harvest the lion fish.

¹³ [形] 這。指示形容詞。如：「是人」、「是日」。《論語·學而》：「夫子至於是邦也，必聞其政。」 See: <http://dict.revised.moe.edu.tw/>

¹⁴ Brook Ziporyn translates 知 zhi as “that” without explanation.

¹⁵ Agrees with 錢穆 Qian Mu, 莊子纂箋, p. 12.

¹⁶ Aquinas does not, I think, offer any specific definition of his frequent characterization of something as involving a “conflict of notes.” I think, however, that it follows from “note” originally meaning “a mark.” If a note is basically what we now would call a characteristic, then a conflict of characteristics attributed to something would be a situation in which somebody is claimed to be both tall and short, a rock is claimed to simultaneously be both cubical and spherical, and so forth. One can make sentences that affirm that some star is both a spheroid and also a perfect cube, but one cannot find such a star in nature and neither can one imagine such a thing. Mathematically, one can square a circle, but the resulting graph does not look like either.

¹⁷ Werner Heisenberg, *Physics and Philosophy*, p. 42

¹⁸ Werner Heisenberg, *Physics and Beyond*, p. 61

¹⁹ <https://www.sketchport.com/drawing/233033/crazy-lady>

²⁰ Jill Bolte Taylor, *My Stroke of Insight*, p.147. “Many of us make judgments with our left hemisphere and then are not willing to *step to the right* (that is, into the consciousness of our right hemisphere) for a file update.”

²¹ https://commons.wikimedia.org/wiki/File:1990s_Mathmos_Astro.jpg

²² See Jill Bolte Taylor, *My Stroke of Insight*, p.67. “Without the traditional sense of my physical boundaries, I felt that I was at *one* with the vastness of the universe.”

²³ https://commons.wikimedia.org/wiki/File:Grasshopper_camouflage.jpg

²⁴ Some scholars treat 為是 as meaning “performing assertions.”

²⁵ http://www.sgwritings.com/9573/viewspace_27684.html

²⁶ [https://en.wikipedia.org/wiki/F. S. C. Northrop#Ideas](https://en.wikipedia.org/wiki/F._S._C._Northrop#Ideas)

²⁷ https://en.wikipedia.org/wiki/Green_Knight

²⁸ Jill Bolte Taylor, *My Stroke of Insight*, p.102, tells how her mother was teaching her to do jigsaw puzzles and realized that Jill was ignoring the colors of the various pieces. She introduced the concept to Jill. “I thought to myself *color, color*, and like a lightbulb going off in my head, I could suddenly see color!”

²⁹ There is another way of translating this passage, which will be handled below.

³⁰ Indracolla, p. 147 of 233 “In order to become a “thing”, the indifferentiated (sic) mass of things must undergo our process of pointing, as only after having been pointed at – and out – and individualized, can we talk of a thing: in our mind every thing correspond to a thing-for-us, since it is the only form wu can assume that we can understand and know; thus for us wu are always zhiwu, pointees, things pointed at. As far as the second half of the sentence is concerned, as we know already the act of pointing as such is not the same as when it is activated and is no more an object but a process in motion involving also a relationship with wu.”

³¹ https://upload.wikimedia.org/wikipedia/commons/b/bc/Cladonia_cristatella_EPA.jpg

³² https://en.wikipedia.org/wiki/Populus_tremuloides

³³ https://en.wikipedia.org/wiki/Anselm_of_Canterbury#Monologion

³⁴ <https://en.wikipedia.org/wiki/Ouroboros>

³⁵ 荃通筌。

³⁶ https://upload.wikimedia.org/wikipedia/commons/thumb/c/c2/Cuscuta_europaea_2005.06.12_15.07.24.jpg/180px-Cuscuta_europaea_2005.06.12_15.07.24.jpg

³⁷ https://commons.wikimedia.org/wiki/File:Poison_Hemlock.jpg
https://commons.wikimedia.org/wiki/File:Queen_Anns_Lace_--_Daucus_carota.jpg

³⁸ The drawing is after the one at www.biochem.arizona.edu/classes/bioc462/462a/NOTES/IGG/IG5.GI which took it from: Three-dimensional Structure of an Anti-steroid Fab' and Progesterone-Fab' Complex, Jairo H. Arevalo, Enrico A. Stura, Michael J. Taussig and Ian A. Wilson; *J. Mol. Biol.* 231 (1993) pages 103-118.

³⁹ <http://slideplayer.com/slide/1457499/4/images/44/RECOGNITION+Secreted+antibodies+constitute+a+group+of+proteins+called+immunoglobulins.+Antibodies+have+2+heavy+chain+and+2+light+chain+subunits..jpg>

⁴⁰ See Jill Bolte Taylor, *My Stroke of Insight*, p.19: “A visual image is built by our brain’s ability to package groups of pixels together in the form of edges.”

⁴¹ See Jill Bolte Taylor, *My Stroke of Insight*, p. 17 for a useful explanation from the standpoint of neurophysiology.

⁴² Wing-tsit Chan, *A Sourcebook in Chinese Philosophy*, p. 182 translates it as “right and wrong.”

⁴³ For another viewpoint, see Jill Bolte Taylor, *My Stroke of Insight*, p. xv.