

The Motherboard of Myriad Things: Daoism, Zhuangzi, and the Internet

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Abstract

Machines, instruments and tools offer many benefits, but according to the classical Daoists—Laozi and Zhuangzi—they can also interfere with living a life in harmony with nature. Despite this, the *Zhuangzi* offers numerous stories of individuals who use technologies whilst exemplifying the virtues of a sage, although how this is achieved is not well understood. I examine two recent interpretations and argue that they are problematic on both philosophical and interpretative grounds. In their place I offer a new solution based on comparing Zhuangzi with recent studies of the effects of the internet on the way we think.

Keywords: Daoism, Zhuangzi, Laozi, technology, *wuwei*, *xinzhai*

Matična plošča nešteti stvari: daoizem, Zhuangzi in svetovni splet

Izvleček

Stroji, instrumenti in orodja ponujajo številne prednosti, vendar po mnenju klasičnih daoistov, kot sta Laozi in Zhuangzi, vplivajo tudi na življenje, ki je v sožitju z naravo. Kljub temu Zhuangzi predstavi številne zgodbe posameznikov, ki uporabljajo tehnologije, hkrati pa ponazarjajo vrline modreca, čeprav ni povsem jasno, kako to dosežejo. V članku preučujem dve nedavni razlagi in trdim, da sta problematični tako s filozofskega kot interpretacijskega vidika. Namesto njiju ponudim novo rešitev, ki temelji na primerjavi Zhuangzija z nedavnimi študijami o učinkih svetovnega spleta na način našega razmišljanja.

Ključne besede: daoizem, Zhuangzi, Laozi, tehnologija, *wuwei*, *xinzhai*

Introduction

The image of the sage in the *Dao De Jing* and the *Zhuangzi* is a person in harmony with the natural world who harbours no desire to change or modify it. One might expect, therefore, Daoism to be anti-technology. This expectation is not

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entirely unjustified. In the *Dao De Jing* Laozi tells us that “with the simplicity of true nature, there shall be no desire; without desire, one’s original nature will be at peace” (2021, ch. 37). The best life is one that follows the Way (*Dao* 道). As Laozi puts it: “The Way does nothing and yet nothing is left undone”. Similar sentiments can be found in Zhuangzi when he claims that the sage is “spontaneous and does not add anything to the process of life” because “the Way gives us the guise, and Heaven gives us the shape” (Graham 2001, 82). If the world is already perfect then technology represents one aspect of human ignorance, an attempt to improve on the unimprovable. Such attempts are futile and will only lead to harm and unhappiness.

The perception of Daoism as anti-technology arose early in its history. In Zhuangzi’s story of the gardener and the well, we are told of an encounter between Confucius’s disciple Zigong and a gardener who expends much effort collecting water. Zigong tells him about a machine called a “well sweep” that allows him to collect more water using less effort. The gardener dismisses the idea, saying it will lead him to spoil what is “pure and simple”. But Confucius is not convinced. He calls the gardener “bogus”, saying he does not know where his life is going. The Confucian stereotype of Daoism as anti-technology persisted well into the rise of neo-Confucianism, and can be found as late as Wang Fuzhi (1619–1692), who warned against following Daoism based on its impracticality and likely impediment to the development of society (Tan 2020).

Except for the story of the gardener, however, there is little in the writings of Laozi and Zhuangzi that is explicitly anti-technology, while A. C. Graham (2001) points out that there are many examples of technology in the stories of Zhuangzi. For example, the famous story of Cook Ding illustrates how an individual can practice effortless action (*wuwei* 無為) when Ding uses a knife to slaughter an ox. Likewise, the story of the hunchback shows how it is possible to craft new tools and instruments from nature whilst still following the sagely ideal. The *Dao De Jing* does not offer as many examples as the *Zhuangzi*, but Laozi uses technical artefacts as a metaphor for the Dao, such as when he compares the Dao to the centre of a potter’s wheel (De Reu 2010). This has led many to speculate that Daoism is not necessarily anti-technology, but instead offers a cautionary warning of how technology can impede the sagely life. Precisely how this happens, and what one should do to get the benefits from technology without spoiling what is “pure and simple”, is contested.

In this paper I will evaluate recent proposals by Barry Allen (2010) and George Teschner and Alessandro Tomasi (2009). Neither Laozi nor Zhuangzi offer anything like a set of conditions that should be followed to use technology in a sagely

way. The interpretations by Allen and Teschner and Tomasi go some way to filling this gap. However, I will argue that both proposals are problematic and cannot provide a complete picture. Focusing on the stories of Zhuangzi, I will compare his warnings about technology with recent studies on the effects of the internet on the way we think, particularly our ability to concentrate and form long-term memories. According to Nicholas Carr (2020) and Susan Greenfield (2015) the internet is impairing our ability to think creatively in a very distinct, human, sense of “creativity”. This echoes Zhuangzi’s complaint that technologies prevent us from acting spontaneously (*ziran* 自然) and impede the manifestation of our natural inner powers (*De* 德).

The rest of the paper will be structured as follows. In the next section I begin by outlining the three most important stories from the *Zhuangzi* that involve technology. These will serve as a benchmark for evaluating existing interpretations and developing my own. In section 3 I discuss and critically evaluate Allen’s proposal that sagely technology is technology that is “*wuwei* effective”. In section 4 I discuss the ideas of Teschner and Tomasi who propose that Zhuangzi’s main concern about technology is that it prevents us from transvaluating the myriad things (*wanwu* 萬物). Whilst I believe that these existing interpretations have correctly identified some of the inherent dangers in technology for the Daoist sage, I do not believe they offer a correct solution for how those dangers can be overcome. In section 5 I compare Zhuangzi’s concerns about technology with the work of Carr (2020) and Greenfield (2015). Their conclusions about the impact of the internet on our minds helps us to reinterpret Zhuangzi’s philosophy and suggests connecting the technology stories with his spiritual practice of “mind-fasting” (*xinzhai* 心齋).

Stories in the *Zhuangzi* Involving Technology

Whilst there are several places in the *Zhuangzi* that refer to technologies, I am going to focus on three stories that provide the most detailed insight into Zhuangzi’s ideas. The first comes from chapter 3, “The Secret of Caring for Life” (養生主) with one of the most famous stories in the entire text. In this story Cook Ding is butchering an ox for Lord Wenhui, who, impressed with Ding’s skill, inquires how he became a master.

Cook Ding laid down his knife and replied, “What I care about is the Way, which goes beyond skill. When I first began cutting up oxen, all I could see was the ox itself. After three years I no longer saw the whole

ox. And now—now I go at it by spirit and don't look with my eyes. Perception and understanding have come to a stop, and spirit moves where it wants. I go along with the natural makeup, strike in the big hollows, guide the knife through the big openings, and follow things as they are. So I never touch the smallest ligament or tendon, much less a main joint.” (Watson 2013, 19)

The story of Cook Ding is one of the so-called “skill” stories that are often taken to illustrate how individuals can develop *wuwei* in their life. Lord Wenhui announces after hearing Cook Ding's explanation that he “learned the secret of caring for life”. However, the story also provides insight into Zhuangzi's attitude towards technology. What is noticeable about the story is the humility of Ding. He is not boastful about his skill and does not explain it as the direct result of his long hours spent training (although in another passage we are told he has been cutting oxen for 19 years). Instead, he puts his ability down to the Dao, which he claims places him in a transformed state of consciousness. When Ding first began butchering oxen, he used his mind to guide his actions. He needed to “see the ox” and decide which parts needed cutting. This blunted his knife and required him to change it many times. But after years of practice, he no longer sees the ox. As he puts it “perception has come to a stop”. The perceptual part of his mind no-longer guides his actions: instead, he acts based on his spirit (*shen* 神).

Just how Ding can achieve this and how it connects to the Dao is open to interpretation. We know that Zhuangzi makes an ontological distinction between the mind or “heart-mind” (*xin* 心) that is responsible for perception and making rational judgements about the world, and a person's spirit. What is clear from this story is that Zhuangzi believes that it is possible to act sagely even when using instruments and tools: the activity of using the knife is no barrier for Ding in attaining *wuwei*.

A similar result is found in a story from chapter 19 “Mastering Life 達生”. Here, we are told of an encounter between Confucius and a hunchbacked man who has constructed a device to catch cicadas. Just as Wenhui asked for the secret of Ding's skill, so Confucius asks the hunchback, who replies:

No matter how huge Heaven and Earth or how numerous the ten thousand things, I'm aware of nothing but cicada wings. Not wavering, not tipping, not letting any of the other ten thousand things take the place of those cicada wings—how can I help but succeed? Confucius turned to his disciples and said, “He keeps his will undivided and concentrates his spirit—that would serve to describe our hunchback gentleman here, would it not?” (Watson 2013, 147)

This passage is useful because we get a third-person perspective via Confucius' description of the hunchback's state of mind and spirit when using his device. Again, just like with Ding, there is a reduction in the amount of work being undertaken by the mind as he does not see or perceive all the different things around him. Instead, his will is "undivided", and his spirit has become "concentrated". Like the story of Ding, this suggests that the hunchback has undergone some psychological process in which his spirit plays a more significant role in his actions.

The stories of Ding and the hunchback thus provide little grounds for Daoists to reject technology. On the contrary, they both speak approvingly of the potential of *wuwei* to be realized through the everyday use of tools and instruments. But it is in the last story, found in chapter 12 "Heaven and Earth" (天地), where Zhuangzi indicates his reservations. When Confucius and Zigong encounter the gardener, Zigong tells him about a machine that can make his life easier.

The gardener raised his head and looked at Zigong. "How does it work?" "It's a contraption made by shaping a piece of wood. The back end is heavy and the front end light and it raises the water as though it were pouring it out, so fast that it seems to boil right over! It's called a well sweep." The gardener flushed with anger and then said with a laugh, "I've heard my teacher say, where there are machines, there are bound to be machine worries; where there are machine worries, there are bound to be machine hearts. With a machine heart in your breast, you've spoiled what was pure and simple, and without the pure and simple, the life of the spirit knows no rest. Where the life of the spirit knows no rest, the Way will cease to buoy you up. It's not that I don't know about your machine—I would be ashamed to use it!" (Watson 2013, 91)

There is a lot of detail given in this passage. The first thing to note is that the gardener says he has heard of the machine but has already decided not to use it. His justification ultimately connects back to the Dao. He explains that if he were to use this machine (and others like it) he would in some way distance his actions from the Dao. The Dao would no longer "buoy" him up. He equates the Dao buoying him to having a focused spirit. When the spirit is restless it is distant from the Dao and a restless spirit is, in part, caused by having a mind with "machine thoughts" (*ji xin* 機心). Where do those machine thoughts come from? The gardener is referring to the use of the well sweep. If he were to abandon his existing technology (probably a handheld bucket), he is likely to develop machine thoughts, and spoil what is pure and simple.

The story of the gardener, when held in contrast to Ding and the hunchback, presents something of an interpretive puzzle for Daoists. On the one hand Zhuangzi suggests technologies can be used whilst living up to the sagely ideal of *wuwei*; on the other hand, he suggests that using technologies can spoil the mind, placing the user at a greater distance from the Dao. If a person is to follow Daoist teachings on living the good life, it is important for them to know how they can practice them whilst existing in a technological society. I now turn to examine two recent interpretations on how this can be achieved.

Barry Allen's *Wuwei* Effectiveness

When evaluating a technology, we typically care most about its effectiveness, i.e., how useful it is for achieving some end, goal, or purpose. For example, a knife is better than a spoon for cutting oxen, binoculars are better than a microscope for viewing distant objects, and email is better than letters for a quick response. Barry Allen argues that Zhuangzi warns against overemphasizing effectiveness. If effectiveness is the only criteria by which we judge technologies, we will be “held hostage to efficiency and profit”. As a result, we will become selfish and fail to live up to the ideals of the sage. This is not to say that effectiveness is not important, but that effectiveness should come from the Dao itself, rather than the mind of the designer.

The problem is not with machines *per se* but the people who maintain them, or more exactly with their knowledge ... It is not knowledge as such that causes confusion and disorder; it is confused, disordered knowledge—superficial, inadequate, unsubtle, and artless. The argument does not devalue technology: instead it sets a new goal, defines an alternative ideal—alternative to engineering held hostage to despotic ideas about efficiency and profit. Not all technology is the same. Some may be coercive and unbalanced, some more generous and sage-like. (Allen 2010, 154)

This an interesting interpretation and switches the debate from one centred on the user to the design of the technology itself. According to Allen, some technologies are effective because they function similarly to the natural world. Technologies can be more or less *ziran* depending on how well they emulate the Dao. He calls technologies that most resemble the Dao, the ones that are most sage-like, “*wuwei* effective”, because when we use them they present a lesser obstacle to achieving *wuwei*. He gives the double-action bellows, reinforced concrete, and suspension bridges as just some examples of technologies that are *wuwei* effective.

Allen's concept of *wuwei* effectiveness is similar to "biomimicry" whereby the designer takes inspiration from mechanisms found in the natural world. Examples of biomimicry include airplane wing design, suction cups, water-repellent fabrics, hypodermic needles, and underwater sonar systems.

Of course, all technologies are artificial to some extent and must come from the mind of a designer: only the myriad things are *directly* created by the Dao. However, if the designer has the right kind of knowledge and understanding of the Dao and its De, then they can use this knowledge to design more sage-like creations. This is how Allen explains the gardener's objection to the well sweep:

To return to the old man cursing Zigong: his argument is that ingenious machines are the products of ingenious minds, which cannot be pure and simple, and therefore cannot move with the Dao ... The old man does not say all machines are ingenious or all the work of impure hearts. Only the really machinish, mechanical ones are. I think that means ones that lack subtlety, being obviously contrived to force what would otherwise not happen ... We might say the old man condemns mechanical minds, facile minds, minds whose *techne* is merely clever and superficially fixed on "efficiency". (Allen 2010, 158–59)

So according to Allen, the gardener is objecting to the well sweep because it was not the product of a mind knowledgeable of the Dao. As a result, the well sweep is not a very sage-like technology, and when used by the gardener is likely to lead him to act in ways contrary to the Dao. But what about the gardener's original bucket? On this logic the gardener can only use the bucket if it is *wuwei* effective and acts like nature. Although Allen does not address this question, in other places he mentions that the concept of "void" is one of the most important Dao design features, and certainly a simple bucket easily fills with water because of its void, and perhaps this is why it is *wuwei* effective. The cases of Ding and the hunchback can be explained in a similar fashion. Ding's knife is an example of a sharp edge. This is a design feature one readily finds in nature in the form of teeth, claws, and defensive spikes. The hunchback's device is a "sticky pole", which again is not overly "clever and superficial" and has countless instances in nature.

From this it might be concluded that *wuwei* effectiveness provides a neat and accurate explanation of the three stories. The well sweep is rejected by Zhuangzi because it is not *wuwei* effective whereas other tools like knives and sticky poles are. However, I do not believe this can be the full story. Here I want to raise what I take to be three problems with Allen's interpretation.

The first concerns the identification of the features that make a technology *wuwei* effective. We are told by Allen that the well sweep is *not wuwei* effective, that it is the result of a facile mind fixed on efficiency. But it is not obvious why this is the case. Consider the facts about how the well sweep works. It is comprised of a long beam with a shorter distance between the pivot and the bucket. This makes lifting water easier because it spreads the force over a greater distance requiring less power to use. But this mechanism, this design feature, is found throughout nature. It is employed, for example, when a lemur or monkey extends their tail to maintain balance, or when a person contracts their muscles to lift a heavy object. Given the ubiquity of this mechanism in nature the gardener should be able to use it with little obstacle to *wuwei*, but we are told that he cannot. If it is not the lever aspect of the well sweep that is causing the trouble, what else could it be? There is not much else besides this that is different from the traditional handheld bucket. Without further identifying those aspects that are meant to be overly artificial, it is hard to see why the gardener should object to such a technology.

A second problem concerns the stories of Ding and the hunchback. These show how one can successfully use technology and remain true to the sagely ideal. On Allen's interpretation this is because their tools work like the Dao and so do not impede *wuwei*. But this explanation appears to shift responsibility for *wuwei* too far in the direction of the technology and its design. We are told that it was not until after long periods of practice that the two men were able to attain *wuwei*. Cook Ding had been butchering for 19 years and it was not until after three that he began perceiving the ox with his spirit rather than his mind. The hunchback, likewise, trained for six months before he was able to use the sticky pole to catch cicadas. It is true that Ding does not credit his practice for his excellent skill; instead, he credits the Dao and his transformed mental state. But this does not mean that his practice is irrelevant. Clearly it formed part of the causal conditions necessary for transforming his mental state to attain *wuwei*. Explaining how Ding and the hunchback can successfully use technology must surely therefore include their practice, and it is not obvious what role, if any, practice plays in Allen's *wuwei* effectiveness.

A third and final problem for Allen's interpretation concerns Zhuangzi's context-dependent notion of sagely action, which contrasts with the context-independence of *wuwei* effectiveness. Zhuangzi is notorious for rejecting the existence of absolute truths beyond simple facts about the power of the Dao. Instead, Zhuangzi offers up a perspectivist (Connolly 2011) or relativist (Hansen 2003; 2014) approach to thinking about knowledge. However, the practice of *wuwei* does not require factual knowledge or "knowledge-that", but skills-based knowledge or "knowledge-how". Here Zhuangzi appears to offer a context-dependent

explanation of whether a person has achieved the know-how to practice *wuwei*. This can be seen in the discussion between Confucius and Zigong. Although Confucius dismisses the gardener's comments, he does not disagree with him entirely. It seems that what he is really saying is that the gardener is too over-zealous in his attitude towards technology. He agrees that the gardener is justified in his choice not to use the well sweep, but it is not an absolute truth that the well sweep cannot be used in a sagely way. In other words, the gardener is inferring an absolute fact about technology where none exists.

After Confucius calls the gardener “bogus” he retreats to a more conciliatory tone:

He knows the first thing but doesn't understand the second. He looks after what is on the inside but doesn't look after what is on the outside. A man of true brightness and purity who can enter into simplicity, who can return to the primitive through inaction, give body to his inborn nature, and embrace his spirit, and in this way wander through the everyday world. (Watson 2013, 93)

Burton Watson interprets Zhuangzi as saying that the true follower of the Dao, the true sage, “does not retire from the world, or reject society and its inventions” (ibid.) but learns to balance their inborn nature with the demands of the outside world. This is what Zhuangzi in other passages calls “walking two paths”. Confucius' criticism, therefore, is that the gardener should be subtle in his attitude: whilst technology can detract from a life close to the Dao, it need not necessarily do so, and there is no intrinsic property of the technology itself that means it cannot be overcome with skill and practice. Interestingly, Allen himself seems to suggest that the gardener's rejection is a result of his peculiar situation rather than the technology itself:

Could the old man be objecting to the kind of machine Zigong describes? He is evidently able to get the water he needs without the sweep. If he had it he could irrigate a hundred times the vegetables he does, but why should an old man want to irrigate a hundred times more vegetables? (Allen 2010, 153)

It could be argued that since the gardener does not need large amounts of water and has already attained a sagely way of life, he does not need to begin the practice required to use the well sweep. This explanation seems convincing, but it does not fit consistently with *wuwei* effectiveness. The comments by Confucius suggest that the know-how needed to live a sagely life is relative to one's context, including one's mental states, needs, and skill. On the other hand, *wuwei* effectiveness

is context-independent and depends only on the design of the technology itself. I believe this shows that Allen's account cannot provide a full explanation of what is needed for the sagely use of technology.

Embodiment and Transvaluation

George Teschner and Alessandro Tomasi (T&T) (2009) take a different approach to Allen. Their interpretations agree regarding the nature of the problem technologies pose, but they disagree over what the correct solution should be. Both believe that Zhuangzi's main worry about technology is that it effects the mind in a way that makes *wuwei* difficult to attain. However, whilst Allen believes the best way to resolve this is through the design of the tool or instrument, T&T believe it comes down to the relationship between the user and the tool. The wrong kind of relationship is when the machine imposes on the user a series of thoughts that must be followed to successfully use it. When this happens "the controller becomes controlled and must think like a machine" (T&T 2009, 191). These thoughts spill out into our judgments about the natural world and other people. Their worry echoes Maslow's dictum: "to the man with a hammer, everything looks like a nail". Technologies narrow our perspective and lead us to measure and judge success relative only to that technology.

This is a problem because according to T&T one important Daoist virtue is being able to "transvaluate" objects, to see the usefulness in the useless. The true sage has what they call an "entrepreneurial" mind that can see the value of objects from multiple points of view. They provide as evidence of this the numerous stories in the *Zhuangzi*, such as that of Huizi and the gourds, the story of the bleaching salve, and the story of the ugly tree, where Zhuangzi teaches us to go beyond our own perspective when thinking about the value of objects. Technology imposes a single perspective and reduces the ability to transvaluate. Despite this, it is possible to use technologies whilst also transvaluating the world. For T&T this is achieved when an individual becomes "embodied" with the technology. The basic idea behind embodiment, a concept they borrow from the writings of Don Ihde (2001) and Hubert Dreyfus (1986), involves a collapse of the "self/other" distinction. The tool becomes an extended part of the body and mind, and it is at this moment when the harmful effects of technology can be avoided.

This is how T&T bring together the gardener's rejection of the well sweep with the stories of Ding and the hunchback:

Another way of understanding the gardener's rejection of the tool is to say that the machine was not a device with which the gardener could enter an intimate relation. By "intimate" is here meant a relationship of embodiment between user and the tool ... The use of a tool in case of embodiment is spontaneous, and non-deliberative, without reflection dividing the action into the subject as user and tool as object ... It is illustrated by the actions of Cook Ding in cutting up the ox and in the hunchback catching cicadas with the sticky pole. Embodiment is the criterion that the gardener used in rejecting the use of the machine for raising water. (T&T 2009, 201–2)

T&T claim that the gardener rejected the well sweep because it is not a technology he can become embodied with. They do not speculate further on why this might be the case. However, given what we already know about the gardener, that he lives a simple life and is already able to get what he needs, it seems reasonable to suppose that the years of practice required to become embodied is beyond him. The explanation in terms of embodiment also seems to fit very well with the stories of Ding and the hunchback. In fact, Ding's self-commentary on how he achieved *wuwei* with the knife perfectly exemplifies the stages of embodiment found in Ihde and Dreyfus. In the beginning Ding had to memorize how to use the knife when cutting different parts of the ox. But after much practice he no longer needs to "go through the mental process" and his actions are intuitive. Unlike Allen's *wuwei* effectiveness, embodiment is also context dependent. Just because the well sweep is unsuitable for the gardener does not mean that it cannot be used by others in a sagely way. This is because embodiment is an "intimate" relation, depending only on the user and the technology in question.

According to T&T, embodiment is the way to escape instrumental thinking caused by technology. By becoming embodied with the machine, we can transvaluate objects in the world. My main concern is with the relationship between these two activities. After all, why should embodiment be the means to transvaluation? Whilst a convincing case can be made for Ding and the hunchback becoming embodied with their instruments, far less convincing is the claim that they have transvaluated the world. At no time does Ding tell us he sees the world in a different way or values the ox in a different way. In fact, he tells us he "no longer sees the ox" as "perception has come to a stop". The hunchback reports a similar result. If this is the case, how can they also revalue their tools or the myriad things and act in an entrepreneurial way?

To explain this T&T appeal to the concept of no-mind (*wunian* 無念). This is the state of no thought or "thinking without thinking" and "contrasts with the

temporal mind that plans and calculates” (T&T 2009, 197). Some caution is needed here, as the concept of *wunian* in Chinese thought does not originate with Daoism but with later commentaries on Buddhism. The earliest mention comes from Zhi Qian (c. 300 CE) in his translation of Sanskrit Mahayana texts (Yun-Hua 1986). It is therefore, strictly speaking, a Chinese rendering of Buddhist “emptiness” (*sūnyatā*) rather than Daoism’s “nothingness” (*wu* 無). They cite as evidence of the role of *wunian* the famous mind fasting passage in chapter 4 where Confucius instructs his disciple Yan Hui to “fast his mind” (*xinzhai* 心齋) to achieve his goal without becoming distracted by the myriad things. When a person has mentally fasted, this places them on the “hinge of the Way” and allows them to see the world from the perspective of the Dao. As a result, they can transvaluate objects and act entrepreneurially.

I agree that mind fasting plays an important part in understanding how Zhuangzi thinks it is possible to use technologies whilst attaining *wuwei*. However, I disagree that this is because of transvaluation. When we look at examples of transvaluation in the text this is almost never carried out by individuals exercising *wuwei* or *xinzhai*. In fact, it is carried out by individuals in a discursive mode using the “planning and calculating” parts of their minds. In the exchange between Zhuangzi and Huizi over the usefulness of the gourds, neither are in a meditative state. Zhuangzi illustrates seeing usefulness in the useless by comparing his case with that of the King of Wu. This exchange requires the use of the parts of the mind we would normally associate with planning, such as memory, goal direction, concentration, and analogical reasoning. Each of these processes requires making correct/incorrect or is/is-not (*shi/fei* 是/非) distinctions—precisely the kind of “complete mind” (*chengxin* 成心) that Zhuangzi identifies as the opposite of an “empty mind” (*xinzhai* 心齋).

A better explanation of the stories relating to usefulness is that they are a lesson in Zhuangzi’s epistemological relativism or perspectivism, rather than any ethical or normative ideal relating to entrepreneurial values. This is how Steve Coutinho (2014, 102–4) interprets these passages as a warning against taking cultural and social conventions as ultimate truths representing the way things are. That is not to say that Zhuangzi is not concerned with what we might call “creativity”. There are many other stories, such as that of engraver Qing, that do draw a clear connection between fasting the mind and acting creatively. However, these are different in tone to the “use stories” and instead talk about individuals tapping into the De of the Dao and using this as the foundation for their actions. When they do so, their actions become spontaneous and, on this basis, they can truly act in a way that mirrors the Dao. I will come back to this example in section 6 as it forms the basis for my interpretation.

How the Internet Affects the Way We Think

Unless we understand the nature of the problem that technology poses to the sage, we will not be able to clearly understand Zhuangzi's solution to it. The gardener story seems to be the most telling case in the whole text. He rejects the well sweep because he claims it will give him "machine thoughts" and "machine worries". However, beyond this brief characterization, we are left to speculate further on what precisely is meant by a machine thought. Even more obscure is how having machine thoughts can obstruct *wuwei*, *ziran* and life in harmony with the Dao.

The objection of the gardener is strikingly similar to recent observations about the internet and how using it changes the way we think. These recent studies provide insight into what might have been the basis for Zhuangzi's reservations and help to reinterpret his worries in a way that makes his proposed solution more intelligible. In addition, by looking at the relationship between Zhuangzi's philosophy and the internet, it is possible to demonstrate the relevance of Zhuangzi's teachings to modern issues and provide guidance for contemporary Daoists who live in a world very different from the time of Laozi and Zhuangzi.

In just a few short decades the internet has infiltrated almost every aspect of our lives: work, communication, entertainment, shopping, and education all now take place on the internet or depend upon it in some way. The average amount of time a person spends online is ever increasing, brought on by the introduction of devices connected to it wirelessly such as smartphones, satnavs, smartwatches, and other objects in the so-called "internet of things". As early as the 1990s researchers began questioning what kind of impact this would have on our behaviour and thinking. Since then, study after study has confirmed that prolonged use of the internet radically changes the way our minds think and process information.

Some have argued that these changes are beneficial. For example, Clive Thompson (2013) claims that the internet enhances our ability to multitask and gather information in a shorter amount of time. However, there are others who think that the internet is having a negative impact. The neuroscientist Susan Greenfield (2015) is so concerned about the effects of the internet on our minds that she calls it "Mind Change" by analogy to "Climate Change", and believes the consequences could be just as disastrous. In a similar vein, Nicholas Carr (2020) argues that the internet is currently designed in a way that affects our ability to think deeply and creatively. The internet, he argues, positively encourages "shallow thinking" that is routine, algorithmic, and devoid of human creativity. To understand why this is the case it is necessary to understand what Greenfield and Carr take to be the two most important cognitive faculties underpinning creative thought: (i) long-term memory and (ii) concentration.

That the internet is influencing our long-term memory would not come to many as a surprise. Why bother to remember the names of the kings of France when a quick Google search will provide the answer? A study carried out at the University of Columbia (Sparrow, Liu and Wegner 2011) demonstrated that individuals who believe facts are stored in a computer will subconsciously put less effort into remembering them. They called this the “Google Effect”, and since the publication of their ground-breaking work their results have been attested to by many. From a Daoist point of view, however, it could even be argued that this benefits the sage. Laozi says in chapter 19 of the *Dao De Jing* “banish wisdom, discard knowledge, and the people will be benefited a hundredfold” (Waley 1934, 166). In chapter 20 he instructs us to “banish learning” saying if we do so there will be “no more grieving” (ibid., 168). Zhuangzi, likewise, is critical of the person who knows too much saying that a sage should forget what they know: “You forget your feet when the shoes are comfortable. You forget your waist when the belt is comfortable. Understanding forgets right and wrong when the mind is comfortable.” (Watson 2013, 153)

But it would be a mistake to take these passages as rejecting the value of memory for Daoists. Memory is not the same as knowledge. The kind of knowledge Laozi and Zhuangzi are concerned with is knowledge based on *shi/fei* judgements, whereby an object is believed to belong to one conceptual category or another. Zhuangzi’s own arguments from relativity and perspective show that such attempts at knowledge are futile because there are no objective facts of the matter. From the perspective of the Dao, there are no distinctions (or alternatively, every possible distinction is seen from the perspective of the Dao).

Carr claims that those in favour of outsourcing memory “have been misled by a metaphor” (2020, 191), because biological memory works in a very different way to computer memory. The human mind creates long-term memories through a process of “consolidation”, whereby cognitive pathways are repeatedly activated. Consolidation comes in two forms: explicit (when the person is consciously aware of the activation) and implicit (when the person is unconscious of the activation taking place). Explicit consolidation happens during rote learning, practice, and intentional recall, whereas implicit consolidation occurs when old memories are connected to each other and to new ones in our subconscious mind. It is believed a lot of this implicit consolidation happens during sleep. The point Carr is making is that long-term memory is not static: it is constantly evolving, whether we intentionally want it to or not, and this makes biological memories fundamentally different from data stored on a computer.

The consolidation process plays an important part in our ability to reinterpret the world and provides the foundation for creative thought. Thinking creatively,

according to Greenfield, is novel and unpredictable—but is not random. It is about drawing new connections between existing ideas, reinterpreting our experiences, and forming new ideas in the process. Computers can draw connections too, but when we follow their connections this becomes a passive and algorithmic form of creativity, providing less long-term meaning and significance to the individual:

The problem could now be one not so much of relying too heavily on an external source for facts but of letting that mentality of collecting isolated bits and pieces of information overtake the formerly normal process of making use of these facts, of joining up the dots ... if you can only remember the places to look for answers rather than the answers themselves, then even these dots will not be learned and therefore cannot be joined up with other dots to form an individual perspective of the world. (Greenfield 2015, 206)

Moreover, it is not just memory, as concentration is also believed to play an important role in creativity. Being able to concentrate allows for “deep thinking”, which Greenfield understands as the ability to create an internal narrative that forms new cognitive connections. Carr credits the printed book as promoting “reading in one’s head”, which helped strengthen our ability to concentrate. The stories in the *Zhuangzi* also demonstrate that concentration is a virtue and plays a role in *wuwei*. Cook Ding and the hunchback have “concentrated spirit”, the gardener rejects the well sweep because it will lead him to “distractions” and “worries”, and Yan Hui is told to have a “unified will”. All reference the importance of concentration in helping to avoid getting caught up in the myriad things.

The internet appears to undermine the capacity for concentration. Citing several studies, Carr (2020) claims that internet users are less able to sustain chains of thought. The changing nature of the internet supports this conclusion: websites like Twitter, BuzzFeed, TikTok, and Yahoo Pulse all present information in easily digestible “bitesize” amounts. Using hyperlinks, websites actively encourage “horizontal thinking” that encourages users to leapfrog from topic to topic based on algorithm recommendations. This contrasts with the printed book, and arguably even the early internet, which encouraged “vertical thinking” through pursuing a single idea to greater depth. This situation has been made worse by smartphones and other connected devices that compete for our attention.

Although *Zhuangzi* was not equipped with the modern understanding of the mind in terms of neurological actions in the brain, there are obvious parallels between his concerns and those raised by these recent studies. Carr and Greenfield claim that long-term internet users risk losing the ability to think creatively in a

uniquely “human” sense of creative. This creativity comes from our natural capacities to forge new ideas through making neurological connections. This cannot be substituted by a computer, which follows a different method, one which is more artificial and less dynamic. This gives us insight into why Zhuangzi believed technologies pose a risk to living a sagely life.

For Daoists the concern is with spontaneity rather than creativity *per se*, although the impact of technology on both is similar. According to Laozi and Zhuangzi, *ziran* is the best way to live because it is when our internal De, or power given by the Dao, is most potent. When we act according to this power our natural abilities are elevated. It can be seen in Cook Ding when he puts his ability down to the Dao rather than his practice and perception. Just as the internet impedes creativity by affecting concentration and memory, so technology more generally impedes spontaneous action. In the philosophy of Zhuangzi this is caused by a “blocking” of the action of the Dao. The gardener says as much when he claims that if he used the well sweep “the Dao would cease to buoy him up”.

The problem for Daoists can now be stated more concisely. When we use technology it imposes on our mind artificial forms of thinking, typically in the form of rules and principles for using the instrument as well as *shi/fei* judgements that allow its application to the myriad things. For example, when Cook Ding was learning to use the knife, he needed to make judgements about the different parts of the ox, such as which bits should be cut and in which way. This activity fills the mind and makes it more difficult for the Dao to guide or influence a person’s actions. As a result, their life becomes less *ziran* and their internal power for spontaneous action is reduced. Their life follows an artificial Way, the Way of technology, rather than the Way of Nature or Heaven (*Tian* 天). Now the problem has been stated it will be easier to explain how I think Zhuangzi proposes to solve it.

Protecting the Mind with *Xinzhai*

The internet produces a challenge unrivalled by previous technologies. This is because the internet is not just a means to an end, but for many it is an end in itself. It produces its own ontology, a “digital myriad”, that forms a basis for desire that rivals the myriad of the Dao. Despite this, its effect on us and Zhuangzi’s advice remain the same. The internet, just like the gardener’s well sweep, draws us away from the Dao, by imposing artificial *shi/fei* distinctions through which we judge the world. However, technology is not the only phenomenon that Zhuangzi believes can do this. How he responds to these other challenges provides insight into technology and how it should be handled by the sage. One area that has a similar

impact is social interaction and it is in his mind fasting passage that he offers guidance on how to protect the mind from such harm.

In this story Yan Hui tells Confucius of his plan to travel to a neighbouring state and reform its ruler who is oppressing his people. Confucius warns Yan Hui that he should not overly rely on his preconceived ideas. Instead, he tells Yan Hui to focus on his goal:

Make your will one! Don't listen with your ears, listen with your mind. Don't listen with your mind, but listen with your spirit. Listening stops with the ears, the mind stops with recognition, but spirit is empty and waits for all things. The Way gathers in emptiness alone. Emptiness is the fasting of the mind. (Watson 2013, 25)

Confucius believes Yan Hui is in great danger of being distracted by all that goes on in the courtly affairs of a ruler and is likely to lose sight of his goal. He likens the promise of fame, intrigue, or death at the hands of the ruler to being in a “birdcage”, which traps the mind and restricts the possibility of spontaneous and flexible action. He instructs him to fast his mind because only by doing this can his actions be guided by his spirit. Zhuangzi proceeds to give two analogies for *xinzhai*: “flying without wings” and the “empty room”. The second of these provides an insightful model of how Zhuangzi connects the spirit to the mind and the role it plays in *wuwei*:

Look into that closed room, the empty chamber where brightness is born! Fortune and blessing gather where there is stillness. But if you do not keep still—this is what is called sitting but racing around. Let your ears and eyes communicate with what is inside and put mind and knowledge on the outside. Then even gods and spirits will come to dwell, not to speak of men! This is the changing of the ten thousand things. (Watson 2013, 26)

A mind that has fasted is compared to an empty room through which a beam of light enters.¹ Why does Zhuangzi make this analogy? If light shines into a room that is not empty its path is disrupted as the rays bounce around the furnishings. The light is therefore affected and transformed by the contents of the room. This is analogous to how our inner *shi/fei* distinctions interpret the input of our senses. As a result, we do not “see” the world in its natural state, but only from the

1 Compare James Legge (1891): “Look at that aperture (left in the wall); the empty apartment is filled with light through it.” 瞻彼闕者，虛室生白。

perspective of our organized minds. This creates a single perspective that results in rigid and inflexible outcomes. By emptying the mind, we see the world more clearly, and act more naturally. But if the mind is empty, how can we act at all? To answer this Zhuangzi appeals to the spirit. The spirit competes with the mind as a determining factor in our actions, but neither is the “lord” of our body.² Unlike the mind, the spirit is passive, it “awaits on things”, and does not impose itself on the world. When a person is guided by their spirit, they act without *shi/fei* distinctions and are closest to the Dao. When their mind is quiet, and their spirit guides their actions, they act on the power of the Dao and their actions are more spontaneous.

This raises a question about the relationship between *xinzhai* and the skill stories, as none mention *xinzhai* as the process undertaken. Despite this, other skill stories, such as that of engraver Qing in chapter 19, do claim that *xinzhai* plays an essential role. In this story it is said that by fasting his mind people would marvel at the result of Qing’s engravings, wondering if they were “made by the spirits” themselves. The point is that once Qing’s mind is cleared of *shi/fei* distinctions he can tap into an inner power guided by the Dao and not the mind. According to Wai Wai Chiu, this is the real purpose of mind fasting: it allows one to act and change the myriad things without being acted upon, what he calls “being thinged by things”.

By harmonizing with the environment, a skillful expert is able to minimize the chance of being thwarted or hurt, as when Cook Ding’s knife is kept intact. This is “not being thinged by things”. At the same time, the skillful expert succeeds in bringing a task to completion; this is “thinging things”. (Chiu 2016, 46)

In the stories of Cook Ding and the hunchback *xinzhai* is being practiced even if it is not mentioned explicitly. Their states of concentrated will, not being aware of the myriad things, and letting their spirit guide their actions, mirror the mental states of Yan Hui and Qing. What about the gardener? In the ensuing discussion, Confucius calls the gardener “bogus”, and criticizes him for wanting to draw himself away from the world. This might be taken to show that Zhuangzi believes the gardener acted too rashly. But there is another way to look at it. The story can be taken as representing Zhuangzi’s position from two different perspectives. The gardener is raising a general worry about what can happen when confronted with

2 Although Zhuangzi makes a distinction between the mind and the spirit, this should not be interpreted as meaning he was committed to some form of Cartesian or substance dualism. For more on the historical and contextual reasons why this is the case, see Roth (1990).

a new technology. To rush into it without any preparation or awareness can lead to adopting the Dao of the technology. The gardener is justified because he has already achieved his goal using the simple bucket. The remarks from Confucius in both this and the mind fasting passage tell us that this does not mean the solution to all *shi/fei* harm is to reject worldly activity. The solution is to guard your mind from that harm by practicing *xinzhai*. Once this has been done one can carry on with the activity needed to attain one's goal, whether that is use technology, engage in social interactions, or other worldly pursuits.

How does an individual fast their mind? The *Zhuangzi* itself says very little about this. The most obvious answer is through some form of meditation practice. We know meditation is an important method through which Daoists in later periods believed they could join the Dao and tap into its power. Other ways of doing this include forms of *daoyin* or “Daoist Yoga” (Kohn 2008), such as *Qigong* or *Taiji quan*, as well as tantric sexual practices. It might be argued that this makes *xinzhai* too extreme or radical a method to be used alongside technology. But the minds of Ding and the cicada catcher cannot be *completely empty*: they still need to have some goal or motivation, otherwise they would not pick up their instrument in the first place. What they seem to have emptied is their preconceived ideas of how to achieve that goal. This point is emphasized by Chris Jochim (1998), who says that for Zhuangzi the mind is not intrinsically bad and *xinzhai* is not about abandoning it entirely. Instead, it is about “letting the mind wander with the Dao”, by letting the spirit take control of our mind and body. When *xinzhai* is understood in this sense, it can be realized through a wide variety of means, many of which we would not normally associate with formal meditative practice.

For example, in the cases of Ding and the hunchback, their years of practice seem to have quietened their minds and provided the means to *xinzhai*. Perhaps practice engrains the know-how in their long-term memory, a form of memory that is non-conceptual and less prone to making *shi/fei* distinctions. When a person uses their short-term memory, they rely on conceptual distinctions and the memorization of rules or algorithms to apply the technology correctly. This is not the same as Teschner's and Tomasi's embodiment. I am not suggesting the distinction between the user and the tool becomes collapsed, rather that the epistemological state of the user after *xinzhai* becomes less perspectival as it is carried out from a position of fewer *shi/fei* distinctions. It is not based on perceptions, ideas, or beliefs, but on one's natural abilities. These natural abilities are, according to Zhuangzi, the result of the power of the Dao.

Contemporary Daoists, like almost everyone else in society, need to use technologies like the internet regularly. What lessons can they take from Zhuangzi on how

to minimize their negative impact and live a more sagely life? If my interpretation is correct the answer lies in reducing the amount of *shi/fei* activity in the mind by relying on a deeper, more primordial, mode of thinking, which Zhuangzi connects to the spirit. As there are many ways to do this, some inspiration can be found in the skill stories themselves.

From the story of the gardener, contemporary Daoists should question whether any given technology is necessary for them to achieve their goals. In the case of the internet, the user might want to consider whether visiting some webpage is essential and how likely it is to generate “machine thoughts” that distract them from the Dao. If the same information can be found through a different medium, such as a book, it should be preferred if the medium poses less risk. Of course there will be some trade-offs, but this kind of reasoning is precisely what the gardener himself engaged in. If a technology must become an essential part of a person’s life, then they should initiate other ways to minimize its impact. This could involve focusing on one’s goal or intention and being mindful of the myriad things that the technology produces and how they might distract you. This is the approach taken by Yan Hui, who must “unify his intention” and stay mindful of the influences of the ruler and court.

The user might even consider engraining the technology in a deeper part of their mind, so that using it no longer requires making *shi/fei* distinctions. This is the lesson of Cook Ding and the hunchback. By practicing, they can use the instrument or tool intuitively without needing to rely on *shi/fei* distinctions and a set of guidelines. How this approach to *xinzhai* can be followed by internet users is less clear. One option might be to encourage users to store more information in their own long-term memories so that they no longer need to keep searching for it. In other words, to minimize the “Google Effect” by reducing how much memory they outsource to the internet. Another option is to increase the amount of time spent on one webpage or resource and reduce the number of hyperlinks clicked. This could strengthen one’s resilience to clickbait and other distractions in a similar way to how the hunchback learned to only focus on cicada wings.

Conclusion

For practicing Daoists, navigating a world full of technologies presents a formidable challenge, and the internet presents possibly the most daunting challenge yet. Although Zhuangzi was writing some two and half millennia ago, he was acutely aware of these challenges, and his solution in terms of *xinzhai* offers a flexible approach that allows individuals to take advantage of the benefits of technology without abandoning the ideals of a sagely life.

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