

Today's Focus: DEER POTIONS AND MAGICAL CONCOCTIONS?

This rather strangely sounding title of our today's newsletter has been inspired by a very interesting comment we have received on social media, as follows:

"Thousands of plant and animal parts, as well as a few minerals, make up a pharmacopeia of traditional Chinese medicines. Magical thinking is clearly the basis for some of these concoctions, e.g., deer penis to enhance male virility. Many of the medications lead to the suffering and unnecessary maiming and killing of many animals."

We are grateful for the above comment as it encapsulates so perfectly the popular state of knowledge, or rather lack of knowledge, about Traditional Chinese Medicine (TCM) in some quarters that we considered it useful to demystify some of this popular thinking.

There may be some good reasons to sympathise with the commentator and with his views – indeed trustworthy sources of information about TCM are not easy to find in the West, some may only be available in foreign languages, in particular in Chinese, and the internet is full of inaccurate or false information spread by people who evidently know very little about this discipline. Furthermore, TCM is often bundled up as one and the same with a multitude of other "alternative", "complementary" or "holistic" practices, some of which being respectable but some having much less of a background or even being self-proclaimed by obscure practitioners with unknown credentials. Additionally TCM training and qualifications system in the West makes access to the profession open to virtually anyone without any medical background

requirements, which evidently has to have an impact on the general standards of the profession compared to those in China. All of this together creates an extraordinary degree of misinformation and confusion around TCM.

Since the comment touches onto several distinct points, let's address them separately, one by one:

Thousands of plant and animal parts, as well as a few minerals, make up a pharmacopeia of traditional Chinese medicines.

Yes, that actually is correct. Traditional Chinese Medicine indeed uses a great variety of natural ingredients, including plants, fungi, minerals and some animal matter too. This is because the natural world is full of various potent substances, which, if applied correctly by a knowledgeable practitioner, have powerful beneficial effects to human health and can heal various diseases. It is possible for example to heal scurvy with citrus fruit. If this "natural remedy", a humble fruit, has a potent ability to heal a deadly disease which unfortunately killed so many European sailors over the centuries, is it so inconceivable that there may be other similarly effective natural remedies able to cure many other illnesses? Indeed, this is just one of the many examples showing that not everything that can heal us has to come from a lab and we can also find very efficient cures and remedies in the natural world.

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Firstly, we are not quite sure why the commentator has specifically chosen to



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mention "male virility", which is somewhat of a marginal concern in light of all the health problems that TCM can deal with. We will therefore refrain from commenting on this, other than to say that a disproportionate amount of attention seems to be given to this specific matter in various internet sources, which is perhaps a reflection of some personal interests or preferences.

"Magical thinking" is however is a myth, which does deserve an ampler commentary. A common reaction towards TCM is to point out that TCM is not "scientific" or is "not proven by science". We strongly feel that the debate over TCM is often of an ideological rather than scientific nature. It is the "us" against "them" attitude that often seems to dominate the discourse. "Our" familiar, trustworthy, scientific approach against the "theirs" wild, barbarian wizardry, which should be treated with suspicion and contempt by respectable people. Even the royal figures have been recently subjected to such witch hunt by being cruelly mocked for their choice of using complementary therapy aka "promoting the hocus-pocus", interestingly by individuals who we suspect may have very little scientific credentials themselves.

All that regardless of the fact that TCM today does not shy away from using the advances of the modern scientific knowledge and the fact that TCM practitioners trained in China are now thoroughly educated in both modern medical science and the ancient TCM practices, so they are able to use the advantages of both disciplines for the benefit of their patients.

In the meantime some highly questionable practices are being widely used within the conventional medical systems worldwide in an apparent contradiction of the medical science those systems claim to be based on. For example the widespread practice of prescribing antibiotics or painkillers without a proper diagnosis, or many other shocking "system failures" putting lives in a very real danger seem to be quietly tolerated and we hardly see the scientifically enlightened individuals who complain about the "dangers" of TCM crying for the proper science and the best clinical practice to be implemented in the public or private conventional medical facilities.

We are planning to write a more detailed article about this, but for now, let's just come back to the earlier scurvy and citrus fruit example. If the modern science was unable to explain why lemons and oranges are efficient in treating scurvy, as was the case until relatively recently, would it make the fruit a "magical thinking" or any less effective as a remedy?

Scurvy is actually an example derived from Western medical history and not from TCM as this disease was very rare if not virtually unknown in China. But it does illustrate nevertheless how an undeniably "natural" remedy can mean a difference between life and death of a patient and it is also a great illustration of how it is possible that TCM's "natural" remedies work.

As we know today, scurvy is caused by vitamin C deficiency, which was often afflicting sailors because fresh fruit and veg were not available to them during long sea voyages. Many have sadly perished as a result. Allegedly scurvy caused more



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deaths in the British fleets than French and Spanish arms combined.

Because fresh citrus fruit is very rich in vitamin C, supplying it would quickly and reliably cure the disease or prevent it from occurring in the first place. To obtain a desired health benefit in this case, the knowledge that a scurvy patient needs to get some fresh lemons to eat was perfectly sufficient.

Efficiency of citrus fruit as a cure for scurvy was known since antiquity and confirmed in what is considered to be the first "modern scientific experiment" performed by James Lind in 1747, which demonstrated that the sick sailors' condition significantly improved within six days of the treatment (after which Lind's supply of fruit run out). Interestingly the findings of this experiment were largely ignored by Lind's contemporaries and it was not until 1794 that the citrus juice started eventually being issued to sailors during voyage at the insistence of senior naval officers.

Until the vitamin C was discovered in early 20th century it was impossible to explain why the citrus fruit worked, yet there is no doubt, we hope, that the lemons and oranges had always worked the same way, regardless of the state of our scientific knowledge.

Additionally, surely in order to alleviate the issue of space constraints on bord of the marine vessels which were relatively small at the time, the fresh fruit was replaced with juice cooked at a high temperature in metal cans. This would significantly dimnish its efficiency as a cure (as, evidently to us today, much of the vitamin C crucial to its efficiency was destroyed in

the processing) prompting an initial conclusion within the medical establishment that this cure was 'unproven and anecdotal'. It may have been a logical conclusion based on the knowledge available at the time, but nevertheless a false one.

Now, couldn't Lind's contemporaries explore the matter in more detail and try to use fresh fruit again to see if it indeed worked? They probably could, but we suspect the inconvenience of having to transport large loads of fresh lemons meant that there would be less space available on the vessels for the valuable merchant cargo and thus less of the eyewatering profits to be earned from the marine voyage. The fact that Lindt couldn't complete his experiment because his fruit run out within six days fully reflects this problem. So, perhaps it was rather convenient to turn a blind eye on the fruit (and on the dying sailors) and to conclude, based on an incomplete and superficial "scientific" logic, that the fruit didn't work. Sadly, it would not be the last occasion in human history when an erroneous "scientific reasoning" combined with logistical challenges and vested interests got in the way of a real progress.

So, let's now look at another, this time a modern example of artemisinin, a medicine derived from a Chinese herb, acclaimed as a "new-era anti-malarial treatment", for which its discoverer Youyou Tu has been awarded with Nobel Prize in Physiology or Medicine in 2015 among many other prestigious scientific awards. Although a very rigorous and fully scientific process has been employed in the research for this drug, involving investigation over 2000 Chinese herbs, the real breakthrough in the research, until



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then apparently unfruitful, occurred when the researchers lowered the temperature during the extraction procedure – the idea inspired from the ancient Chinese medical book by Ge Hong (283-363) "A handbook of Prescriptions for Emergencies". Unlike the previously obtained compounds, artemisinin compound obtained by using this different method retained its active biopharmaceutical properties giving birth to a new class of antimalarial drugs, saving lives of millions of patients suffering from malaria.

And if you needed reminding, where does the first "true" antibiotic, penicillin come from? It comes from a fungus, therefore an entirely natural source. Officially discovered by Alexander Fleming in 1928 (who was also rewarded with a Nobel Prize), the antibiotic properties of mould are said to have already been known to ancient Egyptians who had the practice of applying mouldy bread to infected wounds. Was it magical thinking entirely? And did you know that there are not less than 879 types of Chinese herbal medicines that show antibacterial effects in vivo or in vitro tests and that extensive research efforts are being undertaken to use these properties to deal with the alarming development of bacterial resistance that is currently threatening to literally wipe out our conventional medicine as we know today? It may be that TCM is our best if not the only hope if we do not wish to die from a basic respiratory infection or a cat scratch one day.

So, is there necessarily some kind of irreconcilable logical divide between the "natural" and "conventional medicine"? Or can both perhaps mutually support and enhance each other? And, is there really any good in rejecting the precious ancient

knowledge available to us or dismissing it as "magical thinking" just because the Western science has not yet fully understood it? Just as with the citrus fruit, the artemisinin, and the penicillin, could it be that the natural cures, tried and tested for millennia, were and still are effective but our science may need more time to develop itself enough to fully understand and explain them? Rather than blindly rejecting this knowledge shouldn't we invest more in researching and understanding it better?

We hope that these examples illustrate well enough the tremendous beneficial potential that Chinese medical tradition can bring into the modern science and the public healthcare. The pseudoscientific argumentation used by some in relation to TCM and natural remedies, claiming that anything not validated or understood by science is "magical thinking" is in fact detrimental to science and medical progress. We hope that the common sense will prevail and we will not end up "throwing the baby out with the bathwater" for the sake of unhelpful doctrines and ideologies.

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TCM uses today predominantly plant derived ingredients as well as procedures such as acupuncture or cupping, which do not require any ingredients. But in the past centuries it was usual for the Chinese Emperors and their entourage to hunt wild animals, mainly for food and for their furs to be used as clothing, which was no different to what medieval kings and nobility were doing in Europe. This also provided an opportunity to discover



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therapeutic benefits such animals could procure. China also had access to a great variety of exotic ingredients of plant, mineral and animal origin through its extensive trade networks called Silk Roads, spanning across Asia, Europe and Africa. Together with these commodities also travelled the knowledge about their medicinal uses, and so they were indeed used for medical purposes. Therefore, TCM did develop a considerable understanding of therapeutic benefits of various animal ingredients but it doesn't mean that it relies extensively on such ingredients today. Even in the past, only the very richest people could afford such rare and expensive cures so other methods needed to be used to treat everyone else.

Today, some of those rare commodities are illegal to trade and others are simply unaffordable for an average person, which means that, although knowledge about benefits of such cures does exist, it is most unlikely that you would be offered deer parts as a treatment option anywhere in the UK. There are also some of such substances, formerly derived from animals, which can now be produced in a synthetic way. The ingredients of animal origin that may still be used today by TCM are of a much more prosaic nature such as for example powdered mother pearl, organic chicken or honey.

We feel therefore that putting the responsibility for animal cruelty solely at the door of TCM is yet another huge popular misunderstanding or potentially bias, given how much of indescribable cruelty many animals suffer in the scientific labs for example, for the purpose of development of conventional medical drugs or beauty products. Reports of

some people buying a licence to kill a lion or another rare animal in Africa just for sport are also not unknown. And this would be only a small tip of a huge iceberg, if you think about the scale of suffering of animals globally for many other, highly interconnected and complex reasons attributable to the modern economy and politics such as agricultural and industrial pollution, destruction of rainforests and other habitats, climate change, wars, cruel "industrialised" animal farming methods and so much more.

As for the problem of illegal pouching, to which we think the commentator specifically refers – there are unfortunately multiple illegal markets that exist around the world, trading in anything from illegal drugs, endangered animals, firearms, art, illegal human traffic and even human organs apparently. The reasons why such "trades" exist and potentially even thrive are far beyond our field of expertise. This, we think, could be a subject of an enormous research on its own right, and we do hope that someone will undertake such a task one day. But it doesn't feel very sensible, for example, to blame the NHS for the existence of illegal drug networks on the basis that conventional medicine uses opioids for pain relief. Or to blame the Metropolitan Police for existence of the illegal firearms traffic because firearms are sometimes necessary for policing.

Similarly, is it reasonable to attribute the existence of illegal trade in endangered species solely to TCM, just because it has historically developed knowledge of some beneficial properties that certain rare animals can procure? This specific knowledge, as we have said above, is not commonly used in practice by TCM due to

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availability, price and often legality of such commodities and also, quite simply, because more affordable, sustainable and ethical TCM alternatives are much more easily available.

In fact, choosing to use natural and sustainable TCM healthcare methods over industrially produced drugs may be one huge step towards supporting the environment and reducing the scale of animal cruelty.