The Lantern

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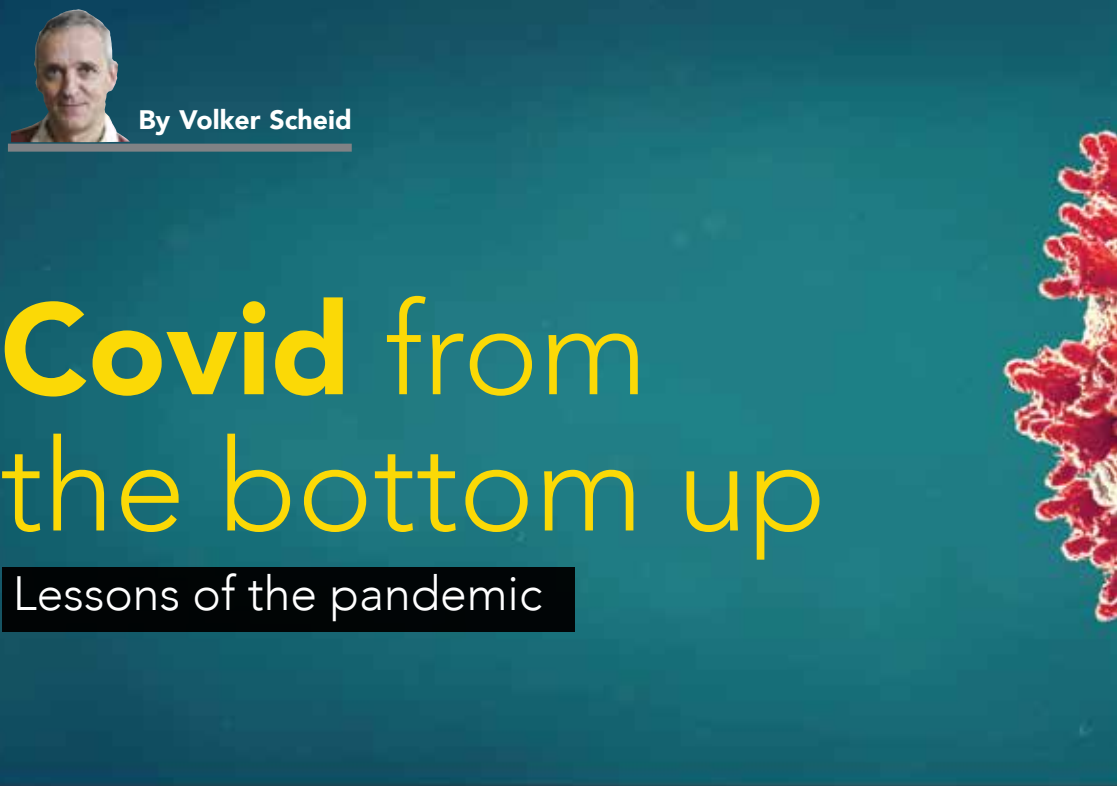


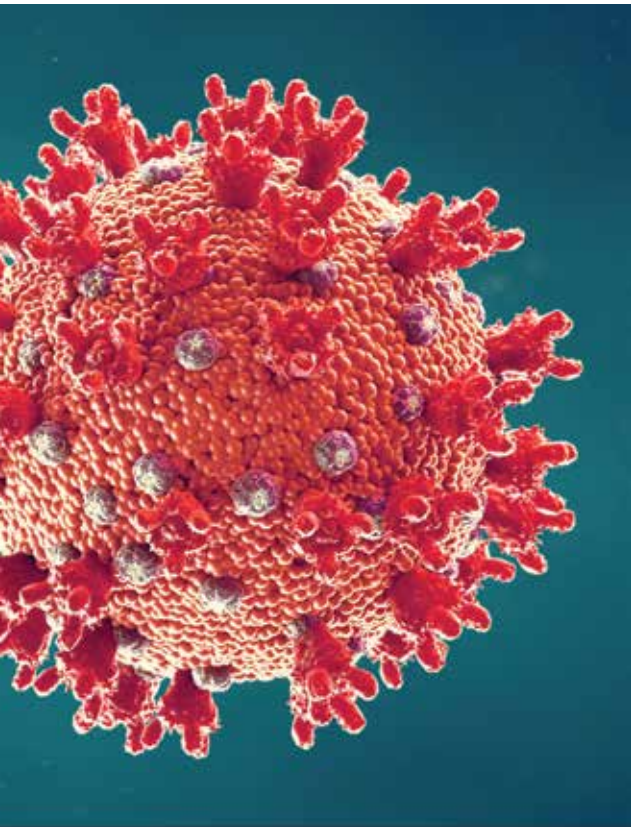
By Volker Scheid

Covid from the bottom up

Lessons of the pandemic

Since Covid-19 first arrived on European shores in the late winter of 2020, I have treated almost 100 patients at various stages of illness due to infection with the SARS-CoV-2 virus. This paper is a first attempt to summarise what I have learnt during this time. By learning I refer to two interconnected processes that appear to pull in opposite directions, and my attempts to deal with the ensuing tension. The first process has been a becoming aware of certain patterns, however blurry, from how patients present to what seems to work in practice. This has been opposed by a simultaneous increase of uncertainty in as much as my engagement with Covid-19 has highlighted to me a number of unresolved problems within Chinese/East Asian medicine that I did not understand as clearly before. I will refer to the tension between these interlinked processes as a problematic, a term that signifies a conjuncture of different problems.

The Lantern is a journal of Chinese medicine and its related fields with an emphasis on the traditional view and its relevance to clinic. Our aim is to encourage access to the vast resources in this tradition of preserving and restoring health, whether via translations of works of past centuries or observations from our own generation working with these techniques. The techniques are many, but the traditional perspective of the human as an integral part, indeed a reflection, of the social, meteorological and cosmic matrix remains one. We wish to foster that view.



FOCUSING ON THIS problematic differentiates my paper from the general tenor of discourse regarding Covid-19 in Chinese/East Asian medicine. Based on what I have read, listened to, and watched across different media (and I have done a lot of this) I think it is fair to say that almost without exception Covid-19 is grasped by means of some kind of already existent framework. This framework defines to the authors/researchers/practitioners what kind of problem Covid-19 is, and appropriate treatment strategies are then deduced from this definition. For some authors, the SARS-CoV-2 virus thus is a new damp-type epidemic toxin but one that can nevertheless be understood within the discourse on epidemics outlined in Wu Youke's 吳又可 17th century *Treatise on Epidemics* (*Wēnyìlùn* 瘟疫論). For others Covid-19 is an illness like any other and can therefore be framed and treated by way of the same patterns that apply to all illness and are outlined in Zhang Zhongjing's 張仲景 second century treatises. Some define Covid-19 as a bread-and-butter warmth disorder (*wēnbìng* 溫病) to be diagnosed and treated through Ye Tianshi's *wèi-qì-yíng-xuè* diagnostic framework. Yet others argue for combining biomedical definitions of the disease as a type of severe acute respiratory disorder (SARS) with Chinese medical understanding of its damp-cold nature. More pragmatically oriented practitioners eschew discussions about what Covid-19 is and are happy to just follow clinical guidelines devised in China. The list could go on.

I think this top-down approach is problematic for at least three reasons. First, claiming that Covid-19 is something already conceptually present within the Chinese/East Asian medical archives seems to me an extremely arrogant statement. Perhaps it is and perhaps it is not. Only time will tell. What is certain, however, is that there exists no historical precedent on which such a claim could be based. As a historian I know that Chinese medicine's engagement with epidemics is one of constant struggle during which existing paradigms and treatment strategies were forever found wanting. In fact, most of the major conceptual breakthroughs in the history of Chinese medicine—from the compilation of the Treatise on Cold Damage (*Shānghánlùn* 傷寒論) to Li Dongyuan's 李東垣 notion of "internal damage" (*nèi shāng* 內傷), from Wu Youke's *Treatise on Epidemics* to the invention of warmth disorder therapeutics—can be directly linked to a perceived failure of then existing approaches to treating epidemics. It could be that no such critical reassessment is warranted this time, but being aware of historical precedent is a useful foundation for learning something new.

Second, all good empirical research is inductive, working its way up from concrete data to abstract theories. That is certainly what I do as a historian and there is no reason why Chinese medicine should be exempt from this rule. Of course, any kind of data analysis is invariably refracted through the lens of existing knowledge, something that can be mitigated only to some extent by constant critical self-reflection and peer-review. The *a priori* commitment to a given theory and treatment model does exactly the opposite.

Third, if the encounter with something new does not change what we do in some way, what does that say about ourselves?

Having said all that, if I was offered a

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manual for treating Covid-19 that definitely worked, I would certainly apply it. However, it is precisely because the manuals and protocols I came across in the early stages of my encounter with Covid-19 did not do this that I was forced to take a different approach. That is, my focus on an emergent problematic was ultimately born out of pragmatic necessity rather than from any high-brow ideals.

Background

My interest in the treatment of what Chinese medicine calls feverish, seasonal or epidemic disorders began more than 30 years ago when I first encountered the *Treatise on Cold Damage* and Ye Tianshi's case records. I have since studied the topic in formal courses, with individual teachers and by reading the works of the ancient masters and contemporary physicians. In the early 2000s, I organised what I believe were the first specialised courses on cold damage (*shānghán*) and warmth disorders (*wēnbìng*) in western Europe. I have myself taught these topics for almost two decades. After reports of the Covid-19 outbreak in Wuhan and then in Lombardy appeared in the winter of 2020, I read what I could about the Chinese treatment of the condition. I therefore considered myself ready and prepared when the disease struck in the UK a little later. My first patient got better with the first prescription I wrote. With the exception of three patients who did not respond to treatment at all, all my other patients derived at least some benefit from taking Chinese herbs. Many improved quite quickly. Others, particularly long Covid patients, proved more difficult to treat. In the treatment of acute cases, it was often difficult to decide whether any improvement was due to my treatment or whether it would have occurred also without. I treated some patients who felt quite ill but I did not treat anyone requiring hospitalisation either before or after they came to me.

If the above sounds quite positive, my initial feeling of being prepared quickly evaporated. Very early on it became apparent that most patients I saw did not present with the triad of fever, dry cough and sore throat claimed by the National Health Service (NHS) in the UK as definitive of Covid-19 infection. Nor did their Chinese medicine patterns reflect what came out of China at the time. Try as I might, I did not see early-stage dampness patterns, nor did my patients have the tongues of Wuhan patients posted on the web. Covid-19 certainly did not appear to be a textbook *wēnbìng* disease either. This was clearly driven home to me when a young mother consulted me for chicken pox she had picked up from her daughter. This was the first patient with chicken pox I have ever treated in my life but she presented pretty much as the textbooks said she would. I have rarely experienced the same kind of relative certainty in treating patients with Covid-19.

Out of sheer necessity I therefore decided to take an agnostic view: to avoid any kind of generalisations and treat each case as best as I could based on its presentation. Such an approach has dangers, too, of course. Defining the disease (*bìng* 病) as a first step in treatment has for good reasons been as important to many physicians treating fevers and epidemics as diagnosing the pattern (*zhèng* 證). This is because this first step inward can lead us to strategies that symptoms alone do not necessarily do. Yet, just as the biomedical world retreated from its initial assumptions about Covid-19 it seemed wisest for me to follow suit and not to claim an understanding that did not really exist. My hope was that after a while some patterns would start to emerge that might contain within themselves the seeds from which a more comprehensive understanding might grow. For if there is one thing I think working with Chinese medicine makes you good at, that is detecting meaningful patterns on the basis of relatively small data sets. For me that point has now come and this paper is an initial attempt to draw my disparate observations into a more coherent perspective.

To this end this paper is divided into two parts. The first part simply sums up my personal encounter with Covid-19: in my own clinic, in my readings of the Chinese medical archive, and in bits of useful information I gleaned from biomedicine and other medical systems. The second part attempts to make sense of these encounters through a series of what I call triangulations. I use the term triangulation to convey a sense of productive positioning vis-a-vis an unknown

"Someone suffered throat bì with phlegm and qi attacking upward. His throat was blocked."
WHICH POINT WOULD YOU CHOOSE?
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phenomenon. These triangulations raise as many questions as they produce answers but, I argue, have helped to give a sense of direction to the *tabula rasa* of my initial encounters.

To underline the provisional nature of my observations, inquiries and findings I have chosen to present my material as a series of lists. Lists create a certain kind of order without imposing a narrative. I also largely eschew footnotes, references and all the other accoutrements of professional authority that might mislead readers into thinking that I am seeking to define what Covid-19 is or how it should be treated. In fact, what I am ultimately aiming at is to demonstrate that we can engage in productive inquiry from very modest beginnings and that there is something to be learnt from our encounter with Covid-19.

Part 1
Clinical observations

By any standard my dataset is exceedingly small. And yet, in the sense that repeatable patterns started to form in my mind, it is perhaps sufficiently large to make a beginning. So as not to suggest I had conducted a clinical study of any kind I purposefully use impressionistic language and avoid quantitative terms. All my consultations were conducted online, hence there is no data on pulse diagnosis.

1. Most of the early-stage patients I have seen presented with symptoms that could be framed as a *shaoyang* type presentation. The most common of these symptoms were alternating chills and fever or a fever that would come and go in terms of its intensity, a painful throat, and dizziness. Accompanying symptoms might include nausea, headaches, and fatigue. Most of these patients responded well to harmonising formulas treating a pathogen located at the half interior half exterior qi aspect, which suggests to me that my diagnosis was correct.

2. Many, but not all, of these early-stage patients presented with additional symptoms that suggested a "combination disease" (合病 *hé bìng*) of some sort. These could be symptoms in the exterior (*taiyang* or *wèi* aspect) like joint pains, headache, neck pain, numbness, or macular type skin rashes; symptoms indicating the presence of obstruction in the *yangming* interior like strong thirst, constipation or difficult bowel movements; or heat in the *yíng* aspect with a red tongue, restlessness, or difficult sleep. Provided I had understood the concurrent pattern correctly, most of these patients also tended to respond well to treatment using an approach that combined a harmonising strategy with one that resolved the exterior, drained downward, cleared heat at the *qì* aspect, and so on. However, the fact that not all patients did suggests that there is another element to the disease process not grasped by the above perspectives.

3. In the resolution of both acute and chronic cases that had not presented to me with exterior (*taiyang* or *wèi* aspect) symptoms at the time of their first consultation, such symptoms would often occur in the course of treatment as the condition improved. So much so, in fact, that after a while I began to expect this to happen. Most typical were headaches, neck and shoulder pain that had not previously been present, skin rashes or numbness of the skin. Treating these symptoms as indicating an obstruction in the body's exterior generally had positive effects in resolving the disease.

4. Less often but also notable was the occurrence of nausea, dizziness, tinnitus or fluid in the ear in the process of illness resolution where this had not been previously present. I also now understand this as a moving outward of the pathogen but through the half-interior half exterior or *shaoyang* rather than the exterior. More on that below.

5. In some patients the disease presented predominantly with *yangming* or *qì* aspect symptoms indicating heat without form. This was invariably accompanied by symptoms and signs indicating the presence of pathogenic heat also at the *yíng* aspect.

6. I found patients presenting with cough, chest tightness or breathing difficulties, especially if they had already been ill for some time, difficult to treat. With hindsight I think that part of the problem is my

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Blood stasis, visible in a tongue that becomes mauve as well as significant swelling and discolouration of the sublingual veins, occurred quite early on in some patients and was regularly present in patients with long Covid, particularly in women.

misreading of these symptoms as requiring primarily some kind of unblocking of the Lung networks, when in fact the obstruction was often located in the pleura or even the Pericardium, that is the half-exterior half interior or the *yíng* and blood aspects. I have come to this conclusion because treating primarily at those levels often also resolved the breathing difficulty and chest tightness.

7. Anxiety and palpitations of varying severity seem to be a very common symptom even in patients who do not describe themselves as prone to anxiety. These symptoms can occur very quickly after the onset of the disease. This symptom was notably absent in patients with the omicron variant. This could be because patients did not perceive omicron as threatening in the way they did earlier variants, but it could also have to do with the disease caused by the omicron variant itself.

8. In both early-stage patients but particularly if the disease lasted for a while, I regularly observed the occurrence of wind-type symptoms. By this I mean symptoms that come and go suddenly, that are not primarily characterised by heat, and that most often manifest as an upward movement of qi in the form of a rushing of qi into the chest or head (sometimes described in the literature as *bēntún qì* 㵎豚氣 or "running piglet qi"), belching up of wind, wheezing, or dizziness. I also place symptoms like a pulse/heartbeat that suddenly becomes faster for no reason or blood pressure that goes up and down under this category. Less often this wind moved downward into the bowels presenting as bloating, sudden diarrhoea, passing of wind, or explosive stools. Depending on the constitution, heat could accompany such wind symptoms, but it seemed to me that typically it was the wind that stirred the heat and not vice versa.

9. Blood stasis, visible in a tongue that becomes mauve as well as significant swelling and discolouration of the sublingual veins, occurred quite early on in some patients and was regularly present in patients with long Covid, particularly in women. Subjective symptoms of such stasis ranged from sudden localised pain in various parts of the body to acute sciatica, heart or menstrual pain, from paraesthesia and numbness to irregular menstruation, sleep disorders and even stroke.

These patients responded well to simple blood moving treatment using herbs such as *Dāng Guī* (Angelicae sinensis Radix), *Chuān Xiōng* (Chuanxiong Rhizoma), *Hóng Huā* (Carthami Flos), *Táo Rén* (Persicae Semen), *Sān Léng* (Sparganii Rhizoma) or *É Zhú* (Curcumae Rhizoma). However, while such treatment would result in significant changes of the tongue and relieved most symptoms, it rarely cured the disease completely.

10. A significant number of patients reported feeling extremely cold. (This cold could be local as in freezing cold feet or systemic with a sense of not being able to get warm anymore). One of the patients I treated, for instance, needed to have a long hot shower in the middle of the night to get warm again. Extreme cold was sometimes accompanied by fear of dying, which is different from the anxiety described above. Cold in the interior was sometimes accompanied by false heat in the exterior or top of the body, such as a sore throat, burning eyes or headaches. These patients responded well to the use of *Zhì Fù Zǐ* (Aconiti Radix lateralis praeparata) formulas. Where such sensations of cold occurred early on, especially as part of a *shaoyang* pattern, I had good results using *Gān Jiāng* (Zingiberis Rhizoma) prescribed as part of modified *Chái Hú Guì Jiāng Tāng* (Bupleurum, Cinnamon Twig, and Ginger Decoction).

11. I also observed extreme tiredness not accompanied by cold and therefore indicating qi rather than yang deficiency. The use of *Huáng Qí* (Astragali Radix), *Rén Shēn* (Ginseng Radix) or *Shú Dì Huáng* (Rehmanniae Radix praeparata) provided good results in these cases.

12. Due to my ongoing learning or perhaps due to delta variant cases of Covid-19 I saw presenting with more heat, I increasingly began to include herbs that specifically address toxicity in my formulas. I now think that using such herbs can make an important difference in resolving Covid-19. The group of herbs ascribed an anti-toxic action, however, is extremely large. Sometimes, therefore, my use

of such herbs was accidental such as when using *Shēng Má* (Cimicifugae Rhizoma) for the ostensible purpose of raising the *zōngqì* and it was only in retrospect that I realised their antitoxic action as important. At other times it was deliberate, such as when diagnosing heat in the *yíng* aspect for which I used herbs like *Xuán Shēn* (Scrophulariae Radix), *Hǔ Zhàng* (Polygoni cuspidati Rhizoma), or *Lián Qiào* (Forsythiae Fructus). I will say more about this below.

I also learnt that using herbs to which we commonly attribute abilities like tracking down (*sōu* 搜), venting (*tòu* 透), or pushing out (*tuī* 推) pathogens from deeper regions, places or territories in the body may be essential for successfully treating Covid-19. To a certain extent these herbs overlap with what Li Dongyuan calls wind herbs (*fēng yào* 風藥) and include medicinals like *Chái Hú* (Bupleuri Radix), *Shēng Má* (Cimicifugae Rhizoma), *Qiāng Huó* (Notopterygii Rhizoma seu Radix), *Chuān Xiōng* (Chuanxiong Rhizoma), *Bái Jiāng Cán* (Bombyx batryticatus) and *Chán Tuì* (Cicadae Periostracum).

13. I observed a wide variety of other symptoms and it is, of course, this tremendous variation when compared to epidemic disorders like measles, mumps, cholera, flu or even SARS that makes Covid-19 such an enigma. Any attempt to "understand" Covid-19 as a disease from the perspective of Chinese medicine must include an explanation of this variety. The same is true of the cytokine storm in the very ill patients that I personally have not seen and the auto-immune reactions that are part of the wider Covid-19 picture.

14. I found that patients infected with the omicron variant of the SARS-CoV-2 virus presented much more alike than patients infected with earlier variants. This observation could be an effect of me having learned to sift through symptoms and signs more effectively, but it could also mean that our immune systems had figured out what to do in ways that they had not earlier on.

Readings from the medical archive

Parallel to treating patients I returned to reading texts on febrile and epidemic disorders. For both idiosyncratic and historical reasons I found early modern authors particularly helpful, specifically Ye Tianshi's *Case Histories as a Guide to Clinical Patterns* (*Línzhèng zhǐnán yī'àn* 臨證指南醫案), Wu Youke's *Treatise on Epidemics* (*Wēnyìlùn* 瘟疫論), Yu Chang's *Addendum to Communing with the Ancients* (*Shǎnglùn hòupiān* 尚論後篇), Yang Lishan's *Systematic Differentiation of Cold Damage and Warmth Epidemics* (*Shānghán wēnyì tiáobiàn* 傷寒瘟疫條辨), Yu Genchu's *Popular Guide to the Treatise on Cold Damage* (*Tōngsú shānghánlùn* 通俗傷寒論), He Lianchen's *Newly Edited Comprehensive Treatise on Warmth and Heat* (*Chóngdìng guǎng wēnrèlùn* 重訂廣溫熱論), and Zhou Xuehai's Brush *Notes on My Readings of Medicine* (讀醫隨筆 *Dúyī suíbǐ*). The one modern author who helped me most was Lu Zheng's 陸拯 T*reatise on Toxins* (*Dúzhènglùn* 毒證論). I also went through notes I had compiled over the years, some of which I had long forgotten and now read in a new light.

My approach to reading was essentially the same as that to treating patients. I tried to avoid seeking confirmation in these texts for ideas already in my mind, diagnostic patterns, or treatment regimens but rather hoped that sooner or later something might jell with my own clinical observations. That is not to say that these observations were not already shaped in some way by earlier readings of these and other texts. However, I purposefully avoided framing Covid-19 through these readings as, for instance, a warmth disorder, a dampness toxin, or a hidden pathogen disorder.

Being trained as a historian as well as a practitioner frees me, at least to some extent, from seeing Chinese medicine through the lens of distinctive schools of thoughts or any of the other largely mythological organising schemes that practitioners have invented for themselves throughout the centuries. In reading any text I am as interested, therefore, in the questions a given author seeks to answer as in the solutions they propose. If we examine in this way the important debates regarding the nature and treatment of epidemic disorders that took place in the wake of the devastating epidemics that swept through China in the 16th and 17th centuries and that still shape the field of Chinese

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medicine today, three questions seem to me of paramount importance:

1. Are epidemics a categorically different type of disorder when compared to feverish disorders caused by the contraction of external pathogens like wind, cold, heat or dampness? Advocates of the *Treatise on Cold Damage* constituting the vademecum for all disease would answer this question with "no", but so too might some physicians generally put in the *wēnbìng* camp. They would, however, disagree with the hardline cold damage people about the fact that the Treatise does not contain therapeutic strategies for externally contracted warmth or damp-warmth disorders.

2. Irrespective of what answer one gives to the first question, do epidemic disorders imply a different disease process when compared to feverish disorders caused by the contraction of external pathogens like wind, cold, heat or dampness? Again, hardline cold damage people would say "no", and so too would some *wēnbìng* authors. Some of the authors in the *wēnbìng* camp, however, would say that epidemic disorders constitute a different type of illness to seasonal colds or flu.

3. Irrespective of what answer one gives to the first two questions, do epidemic disorders require a categorically different therapeutic approach when compared to disorders that are caused by the contraction of external pathogens like wind, cold, heat or dampness? Once again, the cold damage hardliners would say "no". In the *wēnbìng* camp, some authors would say "yes" because *wēnbìng* disorders for them are epidemic disorders. Another group also would say "yes" but argue that treating epidemic disorders is different from treating other types of *wēnbìng* disorders. A third group would say it depends on the type of epidemic disorder.

It is not my intention to discuss here the many different permutations that various authors have offered in answering these questions. Table 1, which I have culled from the work of He Lianchen and my own reading notes, summarises one possible scheme, a solution that has helped me to find meaning (or pattern) in the disparate clinical observations of the previous section.

Other medical traditions

A third position from which to triangulate Covid-19 is provided by the observations and thoughts provided by other medical systems and their practitioners. Specifically, I have

	Newly contracted seasonal disorders (xīngǎn shíbìng 新感)	**Epidemic disorders (wēnyì 瘟疫)**
Cause	Seasonal pathogens (cold, wind, heat, dryness, dampness).	Epidemic toxins or specific disease-causing qi (záqì 雜氣, lìqì 癘氣)
Entry	Skin, airways or digestive tract.	Airways or digestive tract, blood
Disease development	From exterior to interior (irrespective of whether this is conceived in terms of the six divisions, *wèi-qì-yíng-xuè*, exterior/interior, or any other mode of imagining bodily space.	From interior to exterior (blood to *qì/wèi* aspect, membrane source to six divisions)
Symptoms at onset	Chills (even if slight and transitory) and fevers.	Fever without aversion to cold.
Early-stage treatment	Sweating (*hàn* 汗) or venting (*tòu* 透); if caught early can be cured with one dose.	Even repeated sweating or venting will not effect a resolution but may, in fact, aggravate the condition.
Tongue	No change in tongue or tongue coat at onset; as pathogen moves inward fur changes from white to yellow to black and becomes dry; body becomes crimson.	Coating already at onset thick and white, or thin yellow, or powdery, or a mixture of colours, or white but dry; tongue body can also be red or dark at beginning, at all stages signs point to presence of heat in interior even if intermixed with phlegm or stasis.

noted that a number of different osteopaths independently of each other have described a sensation of "stickiness" among infected patients in the rhythms and flow of fluids that they are experts at palpating. I consider this a very important observation because it derives from direct somatic experience rather than the imposition of pre-existing analytic schemes onto observed phenomena.

Biomedicine constitutes another inevitable reference point. I have found the constantly evolving nature of the biomedical understanding of the virus, the disease, approaches to treatment, as well as the internationally collaborative nature of many of these efforts impressive. I cannot help to contrast this with the oftentimes parochial nature of goings-on in the field of Chinese medicine, where the general tenor of discussion was that of validating what one already knows or does, rather than questioning it.

I am not an expert virologist, epidemiologist or ICU clinician. Nor do I think Chinese medicine should be guided by the translation of biomedical ideas and approaches into the domain of Chinese medicine. Rather, similar to sorting through the medical archive, my personal strategy has been one of "selective attention" if you will. By that I mean an openness towards engagement with biomedical information without any attempt at forced or forceful integration.

Once more, I use a list format to present the information I have found useful so far. This list has been compiled with the help of my friend and colleague Dr Gudrun Kleinrath, a biomedical physician and Chinese medicine practitioner from Austria, who in turn consulted some eminent frontline clinicians.

1. Biomedicine physicians agree that Covid-19 is a new disease entity. One of its main features is the fact that pathological changes can occur in many different tissues and organs throughout the body resulting in a very changeable clinical picture. Hence, Covid-19 is sometimes referred to as "the chameleon disease". Even in the same family of patients this picture can vary enormously.

2. Presenting symptoms and signs and onset rarely correspond to the triad of fever, a sore throat and dry cough initially proposed to be definitive of Covid-19. Headaches, body aches, runny nose or nasal congestion, nausea and vomiting appear to be prevalent. Gastrointestinal symptoms were very common during the first wave in the spring of 2020. By early 2022 physicians in Austria had encountered four waves, each of which presented with slightly different symptoms at the onset.

3. Patients with severe forms of Covid-19 requiring treatment in an intensive care unit generally present with high fever (>40° C) that is difficult to bring down, extreme weakness, dyspnoea and hyperventilation. Physicians describe a new and different type of lung symptoms. Patients have significant hypoxia (blood oxygenation below 70 per cent and partial pressure of oxygen below 40pO2) but are able to sit up and bed and talk. Physicians treating Covid-19 patients in ICUs describe their treatment as extremely demanding, partly because existing strategies often do not work and also because each patient requires individually specific treatment.

4. Known risk factors in the development of more severe forms of Covid-19 are overweight and diabetes. One physician observed that stress and intense sports activity also often result in more serious disease.

5. Pulmonary pathologies present differently than more conventional forms of pneumonia and pneumonitis. A dry cough, phlegm that is difficult to expectorate and oxygenation requiring extremely high pressure are typical. The lung tissue changes leading to the typical radiography pictures of "white lungs". Treatment with corticosteroids to suppress inflammation and antibiotics are standard, the latter also because some physicians think that bacteria themselves become infected. Fungal superinfections, to which diabetic patients are particularly predisposed, represent an additional risk.

6. It has been postulated that pathological changes of the endothelium may be responsible for the fact that pathological changes can occur in virtually all bodily organs. Especially during the first wave of Covid-19, thromboembolisms were common.

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GONG TINGXIAN'S CHEAT SHEET

Key herbs for myriad diseases

From the first scroll/folio of his encyclopedic Ming-era work *Wàn Bìng Huí Chūn* (萬病回春 Restoration of Health from the Myriad Diseases), Gong offers a guide of the main herbs we should use for all human illnesses

Incessant white dysentery is due to qi deficiency: Bai Zhu and Fu Ling.

Incessant red dysentery is associated with blood deficiency: Dang Gui and Chuan Xiong.

Diarrhea: Bai Zhu and Fu Ling.

Watery diarrhea: Hua Shi.

Incessant diarrhea: He Zi and Rou Dou Kou.[1]

Sudden turmoil: Huo Xiang and Ban Xia.

Vomiting: Ginger juice and Ban Xia.

Cough and counterflow: Shi Di.

Acid regurgitation: Cang Zhu and Shen Qu.

Clamoring stomach: Ginger-fried Huang Lian and dry-fried Zhi Zi.

To normalize the qi: Wu Yao and Xiang Fu.

Focal distention: Zhi Shi and Huang Lian.

1. Or one can add *Chai Hu* and *Sheng Ma* to uplift the sunken qi, and the diarrhea will self-resolve.

7. Covid patients can present with long-term sequelae. Among patients in ICUs these include fatigue, pulmonary deficiency, multiple organ damage, neurological disorders, and psychiatric problems. Among patients who did not require intensive care long term fatigue, memory problems, brain fog, loss of taste and smell that can endure for a long time, severe damage to the mucous membranes of the airways, throat pain without visible inflammation on inspection, and chronic cough that does not respond to conventional treatment are commonly observed symptoms. Engaging in bodily activity before the disease has been completely resolved often leads to setbacks.

Part 2

A first triangulation

In this section I will make an attempt to draw the various bits and pieces of information presented in Part 1 into something more coherent. I want to emphasise once more that I do not insist that this coherence is the best possible one and even less so that it presents "the truth". At the same time, it is what currently makes sense to me and what guides my own evolving approach to treating Covid-19. In that sense, I do not just present it as an opinion pulled out of thin air but as a considered hypothesis to be rejected, modified or improved on the basis of equally careful thought, evidence and argumentation and not simply because it does not fit one's preferred school of thought.

1. I find it easier to say what kind of disease Covid-19 is not than to say what it is. Given its relatively slow development when compared to say meningitis, measles or even influenza I do not think Covid-19 is a wind-heat disorder. This seem to be confirmed also by the fact that even as the illness progresses, consumption of the body fluids due to heat and dryness is not an invariable aspect of this progression. It is quite the opposite, in fact, as fluids tend to accumulate. I also do not think Covid-19 is a damp-warmth disorder because I have rarely come across key symptoms and signs like low-grade fever that is worse in the afternoon or a sense of oppression in the chest and epigastrium at the onset. I already pointed out that almost none of the patients I have seen presented in the way I expected after having read early reports from China. The case for Covid-19 being caused by a type of damp-cold toxin is, therefore, also not as clearcut to me as it is sometimes claimed to be. In fact, the apparent ability of the virus to continuously change and adapt suggests wind rather than dampness as an important characteristic of the pathogen.

Perhaps, therefore, it is most prudent for now to simply view SARS-CoV-2 as one of Wu Youke's miscellaneous types of qi (*záqì* 雜氣), a pathogen that produces a recognisable disease in people independent of their constitutions. In fact, I have been struck by the ubiquity of attempts within Chinese medicine discourse to frame Covid-19 as some kind of seasonal-pathogen disorder, even when Wu Youke is invoked as an influence (i.e. "damp-cold epidemic toxin" rather than "*xyz záqì*").

2. The initial entry point of the virus in most cases is through the nose and it is in the mucosa of the upper nasal passages and throat that it initially replicates. Because in Chinese medicine the nose is associated with the Lungs, because the more serious forms of Covid-19 are associated with pulmonary disease, and because the upper airways also constitute an important entry point for pathogens in Chinese medical theory (specifically in epidemic disorders), many Chinese medicine practitioners have concluded that the exterior (whether conceived of as *taiyang*, *wèi*-aspect, or *taiyin*-Lungs) also constitutes the first place of engagement between the body's upright qi and the SARS-CoV-2 pathogen.

I am less sure about this. Most of the early-stage patients I have seen presented with some form of alternating chills and fever rather than concurrent chills and fever. Those with chills only, or with chills and fever, invariably also presented with symptoms like a sore throat, bitter taste or dizziness that suggested to me this was not a purely exterior disorder.

From a territorial perspective the body's half-exterior/half-interior is constituted by all those bodily spaces that do not clearly belong to either the exterior or the interior. What precisely is included or not on the basis of this definition is, of course, open to discussion. Classical texts specifically

include the *còulǐ* 腠理 (the interstices and textures of the skin), and the Gall Bladder because of its status as a strange organ that is a *fǔ* but stores like a *zàng*. The lining of the body's cavities is also now widely accepted as representing a half-exterior/half-interior space. Some authors also include sense organs like the ears and nose, which open towards both the exterior and interior. This claim is supported by the fact that conditions like middle ear and sinus infections often respond very well if treated as half-exterior/half-interior disorders. Most of the early-stage symptomatic patients I have treated also improved with *Chái Hú* (Bupleuri Radix) type formulas, suggesting to me that the half-exterior/half-interior and not the exterior is, indeed, the initial location of the SARS-CoV-2 pathogen in the body.

Although the body's half-exterior/half-interior is often automatically equated with the *shaoyang* domain I suggest to suspend this linkage for the time being. In doing so I follow the 17th century commentator Ke Qin 柯琴, widely accepted as one of the foremost authorities on the *Treatise on Cold Damage* in the history of East Asian medicine. Ke Qin thinks of each of the six domains as possessing an exterior, interior and half-exterior/half-interior. For instance, if the muscles are considered to constitute the *yangming*'s exterior and the intestines its interior, the stomach duct (in as much as it can be cleared by way of vomiting) and even the chest (in as much as it can be cleared by expectoration) can be considered to be its half-exterior/half-interior. That is, the localisation of a pathogen in the exterior, interior and half-exterior/half-interior defines the appropriate treatment strategy (sweating, purging and harmonising/emesis) while the diagnosis of the domain leads to the appropriate medicinals for that purpose (*Chái Hú* [Bupleuri Radix] or *Zhī Zǐ* (Gardeniae Fructus), for instance).

Another important tradition of thought in Chinese medicine relevant to the treatment of epidemic disorders furthermore links the half-exterior/half-interior to the *móyuán* 膜原, often translated as membrane source, rather than the *shaoyang*. I will discuss the *móyuán* in more detail later in this paper. For the time being I merely want to note that while thinking of the body's half-exterior/half-interior as the initial location of the SARS-CoV-2 pathogen in the body suggests particular treatment strategies, it does not tie us down to a particular treatment approach or choice of medicinals/formulas.

3. What about asymptomatic patients who have positive tests but never any symptoms, or those patients who at the onset also present with body pain, diarrhoea/constipation, or other symptoms that do not belong to the half-exterior/half-interior? First of all, as outlined above I have not encountered many patients in whom this was the case. Secondly, unless we want to relinquish any attempt to think of Covid-19 as a "disease" (which it clearly is) some kind of explanation is needed. There may be faults in the logic of my own attempt at explanation, but it is at least a start.

Assuming that SARS-CoV-2 pathogen initially lodges in the half-exterior/half-interior, the body would then seek to expel it from there. To this end it has to use the exit routes that lead to the outside via the exterior or the interior. Assuming the body is capable of doing this and these territories are not obstructed this process can be asymptomatic. If, however, obstructions are present or emerge in the process of elimination, symptoms will occur. The precise nature of these symptoms will depend on the constitution of the existing terroir and the nature of the pathogen. For instance, in a patient already encumbered by dampness this will probably manifest as dampness obstruction in the exterior or difficult, sticky bowel movements. In another, it could be cold or heat constraint in the exterior. This explains the wide-variety of possible symptoms with which patients can present at this stage. It also explains why omicron patients present differently than those with earlier variants. By following this effort and unblocking the obstruction with the correct strategy, the patient should recover relatively quickly.

4. Assuming that exterior symptoms are manifestations of a process of elimination but not indicative of where the pathogen is primarily located, it follows that a purely dispersing strategy at the onset may be insufficient or even counter-productive because it diverts resources from where they

Abdominal fullness: Da Fu Pi and Hou Po.

Edema: Zhu Ling and Ze Xie.

Tenesmus followed by heavy sensation: Mu Xiang and Bing Lang.

Incessant white dysentery is due to qi deficiency: Bai Zhu and Fu Ling.

To unbind the middle jiao: Sha Ren and Zhi Ke.

Accumulations and amassments: San Leng and E Zhu.

Accumulations on left side are dead blood: Tao Ren to disperse knots.

Accumulations on right side are food amassment: Xiang Fu and Zhi Shi.

Accumulations in centre are phlegm-fluids: Ban Xia.

Jaundice: Chen Hao.

To tonify yang: Huang Qi and Fu Zi.

To tonify yin: Dang Gui and Shu Di.

To tonify Qi: Huang Qi and Ren Shen.

To tonify blood: Dang Gui and Sheng Di.

To bust up static blood: Gui Wei and Tao Ren.

To lift up qi: Sheng Ma and Jie Geng.

Consumption heat with exhausting phlegm-cough: Zhu Li and Tong Bian.

Sudden and violent vomiting of blood: Da Huang and Tao Ren.

Chronic vomiting of blood: Dang Gui and Chuan Xiong.

Nosebleeds: dried Huang Qin and Shao Yao.

To stop bleeding: 京墨 Jing Mo[2] and 韭汁 Jiu Zhi[3].

Blood in the urine: Zhi Zi and Mu Tong.

2.Brush ink.
3.The juice pressed from green onions.

In most patients with stasis at the yíng/xuè aspect I have treated, heat was not a primary factor.

are really needed. This is precisely what early modern authors tell us about the difference between seasonal pathogens located in the exterior and epidemic pathogens emitting from deeper within the body via the exterior. The former require diaphoretic strategies at the onset, the latter only if and when exterior patterns develop in the course of the disease.

Not just physicians but our bodies, too, can make mistakes such as initiating a dispersing strategy when this is not appropriate. This dispersing strategy will generate heat and exhaust body fluids. It could account for the observation that some patients present with strong heat symptoms such as a dry throat that feels as if it cut with a knife even though the throat does not look inflamed and heat sensations in the chest accompanied by an unproductive cough but no thirst or thirst for warm drinks. This type of inappropriate reaction can also exhaust the body's qi and explain why some patients present with severe exhaustion of qi and/or yang quite early on, including collapse and desertion patterns. In such cases it is important to restore the body's qi and/or yang while simultaneously directing it towards dislodging the pathogen from its real location. Depending on the presentation this can be a step-by-step process or it can be done with a single formula. *Xiǎo Chái Hú Tāng* (Minor Bupleurum Decoction) is a formula that both tonifies and harmonises, as is *Chái Hú Guì Jiāng Tāng* (Bupleurum, Cinnamon Twig, and Ginger Decoction). In other cases, I have used *Zhì Fù Zǐ* (Aconiti Radix lateralis praeparata) based formulas to safeguard the yang and *Huáng Qí* (Astragali Radix) and *Rén Shēn* (Ginseng Radix) based formulas to tonify the qi before shifting focus, once more, on eliminating the pathogen.

5. If the pathogen is not expelled at this stage, I believe Ye Tianshi's *wèi-qì-yíng-xuè* doctrine of pathogen progression provides a good account of what happens next. In Ye Tianshi's conception, a disease in the half-exterior/half-interior is a qi aspect disorder. If it does not resolve, it will either move into the interior (*yangming*) or into the *yíng-xuè* aspect. *Yangming* interior patterns present with obstruction of bowel movement or urination that need to be treated by way of downward draining.

Precise definitions of what *yíng* and *xuè* are and how they differ from each other in terms of their materiality, on the other hand, are concepts that remain contested to this day. I follow Zhou Xuehai, for whom *yíng* denotes something akin to "fluid dynamics" (i.e., the "flowiness" of what is contained in the vessels as constituted by its materiality), whereas *xuè* denotes the materiality of all bodily tissues that is not encompassed by *jin* and *ye* fluids. This account explains why stasis in the vessels does not simply equate to blood stasis but also includes encumberment of the fluid portion of the circulating blood manifesting as dampness and phlegm in the vessels.

Ye Tianshi makes three important statements about what happens and what needs to be done when pathogens enter into the *yíng* and *xuè*.

First, the pathogen needs to be pushed back into the *qì* and/or or *wèi* aspects. I read the *wèi* aspect as constituting the body's exterior and the *qì* aspect as the body's interior from where pathogens can be expelled respectively by way of diaphoresis or purging/downward draining. This is to prevent a rupturing of blood vessels, a common occurrence in epidemic disorders but also sepsis, which from a Chinese medicine perspective can be conceived of as a desperate attempt by the body to eliminate the pathogen from the blood vessels directly. Second, we need to ensure continued circulation. Third, we need to prevent and control wind, which ensues when the circulating blood no longer acts as "the mother of qi" holding and controlling the qi that moves it.

However, whereas Ye Tianshi's *Treatise on Warmth and Heat* focuses on pathological changes in the *yíng/xuè* aspects consequential to heat pathogens, SARS-CoV-2, as argued above, is probably not a hot pathogen. I say this because in most patients with stasis at the *yíng/xuè* aspect that I have treated, heat was not a primary factor and acrid warming herbs like *Dāng Guī* (Angelicae sinensis Radix), *Chuān Xōng* (Chuanxiong Rhizoma), and *Hóng Huā* (Carthami Flos) proved effective. Hence, whatever heat is observed at this stage is most likely the consequence of stasis and constraint rather than its cause. I think this also affords a good explanation of the "stickiness" observed by osteopathic colleagues, and the increasing biomedical

awareness of micro-clots and endothelial pathology at the heart of Covid-19 pathology. It also explains the frequent presence of the wind symptoms not accompanied by fire that I have observed.

From a Chinese medicine perspective, we can make further important distinctions by integrating an awareness of the different locations at which disease at the *yíng/xuè* aspects can occur. If the pathology is located in the more superficial networks and conduits, there might be localised pain, numbness, or coldness. If it is located in the extraordinary vessels, we may observe menstrual problems or counterflow in the *chōngmài*. If it is located in specific organs, we might see organ pathologies also from a biomedical point of view.

In terms of treatment, I initially simply focused on moving blood and treating wind and this provided reasonably good results. Not only would the symptoms and tongue change, often very quickly, but the regular occurrence of new symptoms like headaches, dizziness, or loose stools indicated to me that a resolution via the exterior or interior was being initiated. At this stage, shifting towards a strategy that supported these elimination processes was often helpful. However, because this did not always lead to a complete resolution, I now think that merely moving blood, treating wind and relying on the body itself to shift the pathogen is not sufficient. Rather, Ye Tianshi's adage of actively moving the pathogen back into the *qì/wèi* aspects should be integrated into treatment at this level. I will discuss this in some more detail in the next section.

6. Once the pathological process has been moved from the *yíng/xuè* to the *wèi/qì* aspects it is my experience that patients report a distinct change in their subjective experience of the illness process. They may still have symptoms but they know that something has shifted, that it is their body that is now in control and no longer the virus/pathogen. I have found the experience of crossing this threshold to be an important stage post to aim for as well as a reliable prognostic indicator. At this point, I would focus on eliminating whatever obstructions or deficiencies are still present. I also have followed Ye Tianshi's adage to stop treatment when the patient is 80 per cent better. After that, it is best to let the body take over and not fall into the trap of over-treatment.

7. I view long Covid as being characterised by a pathological process that comprises three different aspects: non-resolved processes of stasis due to blood and phlegm in the networks; damage to qi, yin or yang; and continued reactions to a pathogen that has been contained but not eliminated.

A second triangulation

I outlined in the previous section how my initially disjointed attempts to treat Covid-19 patients gradually led me to towards Ye Tianshi's ideas regarding the progression and treatment of feverish disorders. However, because Covid-19 does not present as a warm pathogen disorder (*wēnbìng*) in the way Ye Tianshi describes them, at least not in the majority of the cases that I have treated, I did not find the specific treatments outlined in his *Treatise on Warmth and Heat* (*Wēnrèlùn* 溫熱論) or Wu Jutong's *Systematic Differentiation of Warmth Disorders* (*Wēnbìng Tiáobiàn* 溫病條辨) all that useful. The same applies to other texts in the *wēnbìng* tradition that focus on newly contracted (*xīn gǎn* 新感) warmth, heat and damp-warmth pathogens.

In this section, I will therefore look at Covid-19 from the perspective of hidden pathogen (*fúxié* 伏邪) disorders, which constitutes a second important approach within the *wēnbìng* tradition. Once more, I will neither provide a detailed historical analysis of the development of this branch nor of my own thinking. Rather, I want to highlight how viewing Covid-19 from the perspective of hidden pathogens (*fúxié*) disorders may be useful in drawing up effective treatment strategies.

1. As outlined in Section 3, some authors in the history of Chinese medicine have employed the concept of hidden pathogens (*fúxié*) to distinguish more serious epidemic diseases (*wēnyì* 瘟疫) from less serious externally contracted seasonal disorders (*wàigǎn shíbìng* 外感時病). While the latter elicit a defensive response as soon as the body becomes aware of the presence of a pathogen, the former enter into the body by stealth, so to speak, and only cause symptoms when

I want to highlight how viewing Covid-19 from the perspective of hidden pathogens (fúxié) disorders may be useful in drawing up effective treatment strategies.

> *Hidden pathogens (fúxié) begin somewhere in the interior of the body or, put negatively, these diseases do not necessarily show typical exterior symptoms at the onset.*

they begin to emerge from the body's interior.

2. A range of different places where pathogens can potentially hide have been suggested. With reference to epidemic disorders, the Kidneys, the blood, and the somewhat mysterious membrane source (*móyuán* 膜原) are the most important of these hiding places. To begin with, I found it helpful to concentrate on the similarity between these perspectives rather than their differences. As far as I can make out, this common ground consists of two shared assumptions. First, that hidden pathogens (*fúxié*) begin somewhere in the interior of the body or, put negatively, that these diseases do not necessarily show typical exterior symptoms at the onset. Second, that pathogens are difficult to dislodge from their hiding place by conventional strategies or, again put negatively, that symptoms and signs such as a body aches accompanied by a lack of sweating or constipation accompanied by thirst are not resolved by conventional strategies like sweating or draining downward.

Instead, treatment must facilitate the expression of the hidden pathogen from its place of hiding and only thence towards the exterior. A typical example is the use of herbs like *Shēng Má* (Cimicifugae Rhizoma) and *Gé Gēn* (Puerariae Radix) in the treatment of chicken pox, which are prescribed specifically to expel a toxin from the blood towards the exterior. Likewise, the primary goal of Wu Youke's famous *Dá Yuán Yǐn* (Reach the Source Drink) is to dislodge pathogens from the membrane source (*móyuán*). Once this has been achieved a wide range of other symptoms may be produced depending on the exit route taken, which are then addressed by using new and different formulas or modifications to *Dá Yuán Yǐn* (Reach the Source Drink).

Another way to put the above is to say that a pattern-based method of prescribing alone is insufficient to treat hidden pathogen (*fúxié*) disorders. Rather, hidden pathogens must be addressed with medicinals and formulas specific for that purpose. This is why the diagnosis of disease is so important here.

3. Besides the two examples already mentioned, I have long successfully employed *Shēng Jiàng Sǎn* (升降散 Lifting and Directing Downward Powder), a formula employed by the Ming dynasty physician Yang Lishan 楊栗山 to dislodge hidden pathogens from the blood.[1] Over time, I noticed that although moving blood in patients with long Covid ameliorated symptoms if blood stasis was an obvious part of the presentation, the use of herbs like *Shēng Má* (Cimicifugae Rhizoma) or Yang Lishan's *Shēng Jiàng Sǎn* considerably improved treatment outcomes.

4. Thinking of SARS-CoV-2 as a pathogen that has the ability to hide in distinctive bodily tissues may also help to explain the effectiveness of harmonising formulas used to resolve the half-interior/half-exterior in an earlier stage of the disease. An important ingredient in these formulas is, of course, *Chái Hú* (Bupleuri Radix). According to Zhou Xuehai, *Chái Hú* "governs the treatment of alternating chills and fever reflects because it is able to course and regulate damp-heat knotting qi. Hence, it clears and courses knotted heat in the *yíng* aspect but does not open or emit exterior pathogenic qi at the *wèi* aspect."[2]

Shēng Má (Cimicifugae Rhizoma), *Gé Gēn* (Puerariae Radix), and *Chái Hú* (Bupleuri Radix) belong to a group of medicinals that Li Dongyuan calls "wind herbs" (*fēngyào* 風藥). So does another herb I have found useful in treating Covid-19 especially in the presence of exterior symptoms, namely *Qiāng Huó* (Notopterygii Rhizoma seu Radix). Today we think of Li Dongyuan's use of these herbs as strategies for facilitating the upward movement of qi in the treatment of prolapse and sinking Spleen qi. However, formulas like *Bǔ Zhōng Yì Qì Tāng* (Tonify the Middle to Augment the Qi Decoction) were originally most likely composed by Li Dongyuan to treat epidemic fevers, specifically the plague.

I think it is possible to link Li Dongyuan's wind herbs, Wu Youke's membrane source (*móyuán*) and the venting of hidden pathogens from the interior to the exterior in treating epidemics. This, however, necessitates a brief digression.

1. This formula contains *Chán Tuì* (Cicadae Periostracum), *Bái Jiāng Cán* (Bombyx batryticatus), *Dà Huáng* (Rhei Radix et Rhizoma), and *Jiāng Huáng* (Curcumae longae Rhizoma).
2. The original is: 其主寒熱往來，是疏理濕熱結氣之功能，清疏營分之結熱，不能開發衛分之表邪.

A digression: the móyuán

Wu Youke's critique of cold damage therapeutics in the understanding and treatment of epidemic disorders was a major turning points in the history of Chinese medicine. His ideas were so radical, in fact, that their full force is rarely accepted even today. Instead, his ideas are commonly assimilated to the very practices he opposed thereby neutering their challenge to orthodox thinking. His concept of the membrane source (*móyuán*) is a case in point.

Without getting into discussions about what anatomical structure(s) corresponds to the *móyuán*, we can simply note that it was conceived by Wu Youke as a space where particular kinds of pathogens (his miscellaneous qi) could hide from the defensive apparatus of the human body. Wu Youke specifically imagined the *móyuán* as lying outside the scope of the six domains (*liùjīng*) in terms of both the bodily territories they encompass and the patterns of pathology they describe. This explained to Wu Youke why cold damage treatments failed so disastrously during the devastating epidemics of the 17th century. Today, on the other hand, the *móyuán* is often treated as if it was simply another term for the *shaoyang* half-interior/half-exterior, and *Dá Yuán Yǐn* (Reach the Source Drink) as just another formula for treating *shaoyang* half-interior/half-exterior disorders. *Wēnbìng* physicians, likewise, tend to subsume the *móyuán* to the triple burner and describe *Dá Yuán Yǐn* as a formula for damp-warmth disorders diagnosed by way of triple burner diagnostics.

Zhou Xuehai, a 19th century commentator whose critical reading of medical texts continues to inspire me, followed a more productive line of inquiry. Proceeding from an analysis of the compound term *móyuán* 膜原, he placed particular emphasis on understanding the meaning of its second character *yuán* 原. Noting that it does not merely describe a source but can also refer to vast open spaces like prairies, he defined *móyuán* as comprising all the many narrow spaces between different types of bodily tissue. He argued that pathogens can hide in these spaces because being vast their presence does not lead to the obstruction of physiological flow and process. Hence, Zhou Xuehai argues that *fúxié* disorders do not necessarily begin with symptoms like chills and fevers, coughing, vomiting or constipation, all of which stem precisely from such obstruction. Furthermore, even after the body becomes aware of these pathogens, the open nature of the *yuán* spaces makes it difficult to track these pathogens down, exhausting the body's own qi and resulting in often protracted disorders that are difficult to resolve.

Interestingly, Zhou Xuehai viewed the gathering (*zōng*) qi rather than the protective (*wèi)* qi as key to these efforts. In Zhou Xuehai's definition of these terms, the protective (*wèi*) qi corresponds to the body's wild and fiery yang qi whereas the gathering (*zōng*) qi is a wind-like rhythmic qi that moves stuff around the body, specifically the stuff flowing in the conduits and vessels. Perceiving SARS-CoV-2 in this way as a pathogen hiding in the *móyuán* would explain why tiredness,

> *The móyuán is often treated as if it was simply another term for the shaoyang half-interior/half-exterior.*

	Qing Yang Tang	**Jiu Wei Qiang Huo Tang**
Facilitating the expression of pathogens	*Xī Jiǎo* (Rhinocerotis Cornu) *Lián Qiào* (Forsythiae Fructus) *Jīn Yín Huā* (Lonicerae Flos) *Dàn Zhú Yè* (Lophatheri Herba)	*Qiāng Huó* (Notopterygii Rhizoma seu Radix) *Fáng Fēng* (Saposhnikoviae Radix) *Bái Zhǔ* (Angelicae dahuricae Radix) *Xì Xīn* (Asari Radix et Rhizoma)
Bitter cooling medicinals to drain fire toxin from *qì* aspect	*Huáng Lián* (Coptidis Rhizoma)	*Huáng Qín* (Scutellariae Radix)
Move the blood to prevent stasis	*Dān Shēn* (Salviae miltiorrhizae Radix)	*Chuān Xiōng* (Chuanxiong Rhizoma)
Support circulation of *yíng* through enriching fluids/ draining excess dampness	*Shēng Dì Huáng* (Rehmanniae Radix) *Mài Mén Dōng* (Ophiopogonis Radix) *Xuán Shēn* (Scrophulariae Radix)	*Shēng Dì Huáng* (Rehmanniae Radix) *Cāng Zhú* (Atractylodis Rhizoma) *Gān Cǎo* (Glycyrrhizae Radix)

Like latent pathogens or the nature of the móyuán, toxins constitute an important but ill-defined concept in Chinese medicine.

stagnation and wind and not just fever and heat are such important manifestations in so many of the Covid-19 patients I have seen, or why osteopaths pick up pathologies of flow in the absence of dampness/dryness as core pathologies.

In another of his essays, Zhou Xuehai remarks that modified *Jiǔ Wèi Qiāng Huó Tāng* (Nine-Herb Decoction with Notopterygium) is the prescription of choice for certain types of malarial disorders that emit from the *móyuán* of the spinal column. Interestingly, in terms of its composition *Jiǔ Wèi Qiāng Huó Tāng* looks structurally very similar to Ye Tianshi's *Qīng Yíng Tāng* (Clear the Nutritive Level Decoction), his main formula for heat at the *yíng* aspect, with all differences accounted for by the different pathogens treated.

With a few modifications *Jiǔ Wèi Qiāng Huó Tāng* certainly fits quite a number of the patients I have seen whose Covid-19 illness had progressed beyond the acute phase. I would tend to substitute *Xuán Shēn* (Scrophulariae Radix) for *Shēng Dì Huáng* (Rehmanniae Radix) because it actively expresses toxins; I would favour *Shēng Má* (Cimicifugae Rhizoma), *Bái Jiāng Cán* (Bombyx batryticatus), and *Chán Tuì* (Cicadae Periostracum) over *Fáng Fēng* (Saposhnikoviae Radix), and use *Qiāng Huó* (Notopterygii Rhizoma seu Radix) only if there were signs of obstruction in the *taiyang* exterior. I would also tend to add more blood moving herbs, and I would substitute *Bái Zhǐ* (Angelicae dahuricae Radix) and *Xì Xīn* (Asari Radix et Rhizoma) with medicinals to remove phlegm from the networks.

Irrespective of whether modified *Jiǔ Wèi Qiāng Huó Tāng* (Nine-Herb Decoction with Notopterygium) turns out to be a widely applicable formula for treating Covid-19, I have found the resonances between Zhou Xuehai's treatment of the *móyuán* and Ye Tianshi's treatment of *yíng* aspect disorders that is elicited by this comparison extremely productive. It has directed my attention to thinking of strategies and medicinals that specifically facilitate the expression of pathogens from the places such as the *yíng*/blood or the *móyuán*. I find this train of thought even more important in line of the biomedical observation that viral damage to the endothelium, a membranous in-between structure, may be key to understanding Covid-19.

As for what specific herbs to choose in this respect, in the next section I will further articulate Covid-19 with Wu Youke's second revolutionary idea, that of miscellaneous pathogenic qi, with the concept of toxin disorders in Chinese medicine.

A third triangulation

If anything, Wu Youke's concept of heterogeneous qi (*záqì*) as causes of disease was even more revolutionary than that of the *móyuán* as a disease location beyond the six divisions. Wu Youke defined heterogeneous qi as specific causes of specific diseases that included but were not limited to epidemic disorders. He specifically defined these heterogenous qi as toxic in nature thereby creating a link to the discourse and treatment of toxins (*dú* 毒) in Chinese medicine.

Like latent pathogens or the nature of the *móyuán*, toxins constitute an important but ill-defined concept in Chinese medicine whose myriad interpretations also go far beyond the scope of this paper. Once more, though, we can adopt a pragmatic approach that looks for commonality rather than difference. To this end, I define toxins as causes and/or manifestations of disease that lie outside the scope of "the normal" and that benefit from the use of specific "toxin resolving" (*jiědú* 解毒) medicinals, many of which are themselves classified as toxic in nature. SARS-CoV-2 and Covid-19 fulfil these definitions. The question therefore arises as to whether treating Covid-19 benefits from the use of specific toxin resolving treatment strategies or medicinals and, if so, which ones.

The use of medicinals with antiviral properties, specifically if such properties can be shown to extend to SARS-CoV-2, constitutes one possible answer to these questions. While not opposed in principle to this route of investigation, I believe it needs at the very least to be integrated with more specifically Chinese medicine-based treatment strategies. For instance, the use of cold and bitter anti-virals like *Bǎn Lán Gēn* (Isatidis/Baphicacanthis Radix) or *Chuān Xīn Lián* (Andrographitis Herba) at the onset of a viral infection when a pathogen has not yet penetrated to the *yíng*/blood aspect might

hinder rather than facilitate the expression of pathogens towards the exterior.

The *Treatise on Toxin Patterns* (*Dúzhèng lùn* 毒證論) by the contemporary physican Lu Zheng 陸拯 (b. 1938) takes such an approach. Clearly influenced by Ye Tianshi, Lu proposes that illnesses caused by toxins can be categorised as going through four phases depending on their level of penetration into the body: an initial reaction at a superficial level (*fú céng* 浮層), where the presence of/reaction to the toxin takes place in the exterior; a systemic reaction at an active level (*dòng céng* 動層), where the toxin floods the body, manifesting with severe acute illness; containment at a submerged level (*chén céng* 沉層), where the toxin is still active but the illness no longer progressing; and protracted disease at a hidden level (*fú céng* 伏層), where acute symptoms have subsided but the toxin has not yet been eliminated manifesting with acute flare-ups or chronic ill-health. It seems to me that Covid-19 maps quite well on Lu Zheng's four stages from initial infection to long Covid. Progress through these levels is, of course, not linear because how a given stage manifests depends as much on a person's constitution, the terrain in which the illness takes place, and treatment given as on the nature of the toxin itself.

Based on the small sample of patients I have treated I cannot give any qualified opinion as to what medicinals might be specific for treating Covid-19 in any of these stages. Nor is this the place to discuss Lu Zheng's approach in detail. Suffice to say that he is strongly influenced by the treatment strategies Ye Tianshi recommends for diseases at the *wèi-qì-yíng-xuè* aspect, with the proviso that Lu's phases tend to extend across various of Ye Tianshi's aspects. Lu Zheng is apt to include some tonification even in the early phases of treatment but the focus at all times is on expressing the pathogen via the surface and/or bowels and urination. To this end, he draws widely on toxin-resolving medicinals suitable for each phase, i.e., light medicinals like *Jīn Yín Huā* (Lonicerae Flos) or *Chán Tuì* (Cicadae Periostracum) during the initial fleeting phase, powerful toxin resolving medicinals for the active phase, and a combination of tonifying, unblocking and toxin resolving medicinals for the hidden phase.

Drawing it all together

My purpose in writing this paper has not been to provide a definite account of treating Covid-19. As its title makes clear, my primary interest lies in charting ways for thinking about Covid-19 from the bottom up. The way to do this, I suggest, is to bring our own clinical experience into conversation with relevant readings from Chinese/East Asian medicine's vast archives. Not in order to have them validate what we are already think or do, nor to search in them for the hidden key to treating Covid-19. Rather, by defining Covid-19 as a complex problem and repeatedly triangulating it from a variety of different perspectives we may hope to arrive at provisional insights that step-by-step lead to building up a more complete picture. I do not imagine that picture to constitute a puzzle where every little bit exactly fits with all the others. Life is too complex, fractured and vital for that. But enough pieces can eventually be made to cohere to allow us to navigate the way ahead, at least for a time.

Based on the pieces I have assembled, I make the following suggestions.

1. Lu Zheng's four-phase conception of toxin disorders provides a useful framework for conceiving of our response to Covid-19. In this scheme, the first fleeting phase (*fú céng* 浮層) corresponds to the initial infection where the pathogen is in the upper airways. Often enough, the body is able by itself to either resist invasion completely or resolve the illness at this stage. If not, I now tend to use a *Chái Hú* (Bupleuri Radix) or *Qīng Hāo* (Artemisiae annuae Herba) based formula as my first choice at this stage, modified in light of presenting symptoms.

I would be especially attentive to signs that indicate obstructions of the exterior. If there are signs that elimination via the interior is obstructed, a formula like *Xiǎo Xiàn Xiōng Tāng* (Minor Decoction [for Pathogens] Stuck in the Chest) may be more appropriate at this stage. I have no opinion as to whether specific medicinals to resolve toxins provide additional benefit. If they do, then these should probably be light medicinals like *Lián Qiào* (Forsythiae Fructus), *Jīn Yín Huā* (Lonicerae Flos), *Chán Tuì* (Cicadae Periostracum), *Bái Jiāng Cán* (Bombyx batryticatus) or *Dà Qīng Yè* (Isatidis Folium).

Lu Zheng's four-phase conception of toxin disorders—superficial, active, submerged and hidden—provides a useful framework for conceiving of our response to Covid-19.

For blood stasis and wind, one would have to treat at the specific level of the problem, distinguishing between networks, conduits, extraordinary vessels, or organs as well as whether stasis involves only blood or also phlegm.

2. Lu Zheng's active phase (*dòng céng* 動層) corresponds to a bodily response characterised by fever, a feeling of being quite ill and signs that the function of specific organs, most often Lungs, Heart/Pericardium, or Stomach/Intestines but also others, becomes disordered. Whether from the perspective of Lu Zheng's own treatment recommendations or from what I have observed in clinical practice, presentations at this stage do not neatly fit any single formula pattern.

I have not treated patients with pneumonia or any diagnosed disease at an organ level. The patients I treated that could be classified as having been at this stage responded well-enough to treatment strategies that focused on the qi aspect, by which I mean formulas built around medicinals like *Shí Gāo* (Gypsum fibrosum), *Zhī Zǐ* (Gardeniae Fructus), *Dà Huáng* (Rhei Radix et Rhizoma). This implies a strong constitution and/or an excessive reaction to the presence of the pathogen. The famous cytokine storm, about which I have only read, would fall under this rubric.

Because they facilitate unblocking of the exterior, the *San Jiao* or the bowels, these medicinals directly aim at expelling the pathogen. I personally also think of Yang Lishan's *Shēng Jiàng Sǎn* (Lifting and Directing Downward Powder) at this stage if not earlier. It contains herbs that resolve toxins like *Chán Tuì* (Cicadae Periostracum) and *Bái Jiāng Cán* (Bombyx batryticatus), it facilitates venting of the pathogen through the exterior, keeps the bowels open, and safeguards against blood stasis in both the conduits and networks. I do not have sufficient experience to argue what other toxin resolving medicinals should be employed. I have had good experiences with *Kǔ Shēn* (Sophorae flavescentis Radix) for Heart/Pericardium related patterns and with *Hǔ Zhàng* (Polygoni cuspidati Rhizoma) more generally. *Yú Xīng Cǎo* (Houttuyniae Herba) may be an option for Lung patterns.

It could be argued that patterns of severe qi deficiency or internal cold including those characterised by desertion of yang, also belong to this phase in as much as they require the use of qi tonics like *Huáng Qí* (Astragali Radix) or interior warming medicinals like *Zhì Fù Zǐ* (Aconiti Radix lateralis praeparata) that Lu Zheng considers toxin resolving.

3. Lu Zheng's submerged phase (*chén céng* 沉層) is where Covid appeared to be located in many of the patients I have seen and the disease often progressed quite quickly towards this phase. This would correspond to Ye Tianshi's adage that some pathogens move quickly from the *wèi/qì* into the *yíng*/blood. During this phase, the movement of stuff in the conduits and networks becomes impaired and qi is no longer anchored in the blood leading to wind. Based on my learning experiences I now tend towards the use of treatment strategies that not only ensure free flow of *yíng* (by which I mean the complex of blood and fluids in the vessels and networks) but that actively seek to express the pathogen back towards the exterior or *qì* aspect. Modifications of *Qīng Yíng Tāng* (Clear the Nutritive Level Decoction), *Jiǔ Wèi Qiāng Huó Tāng* (Nine-Herb Decoction with Notopterygium), Zhang Jiebin's *Dà Wēn Zhōng Yǐn* (大溫中飲 Great Warming the Middle Drink)[3] or Zhang Xichun's *Shēng Xiàn Tāng* (Raise the Sunken Decoction) might be applicable. It may be the case that medicinals that resolve toxins are partially effective because they do this, but this is only a hypothesis. At this level, I would think of medicinals like *Xuán Shēn* (Scrophulariae Radix), *Zhì Fù Zǐ* (Aconiti Radix lateralis praeparata), *Bái Jiāng Cán* (Bombyx batryticatus), *Shēng Má* (Cimicifugae Rhizoma), *Chán Tuì* (Cicadae Periostracum), *Qiāng Huó* (Notopterygii Rhizoma seu Radix), *Chái Hú* (Bupleuri Radix) and *Qīng Hāo* (Artemisiae annuae Herba).

For blood stasis and wind, one would have to treat at the specific level of the problem, distinguishing between networks, conduits, extraordinary vessels, or organs as well as whether stasis involves only blood or also phlegm.

If it can be shown that treating Covid-19 decisively benefits from a hidden pathogen approach, which I define as consisting of

3. This formula is composed of *Shú Dì Huáng* (Rehmanniae Radix praeparata), *Dāng Guī* (Angelicae sinensis Radix), *Bái Zhú* (Atractylodis macrocephalae Rhizoma), *Ròu Guì* (Cinnamomi Cortex), *Gān Jiāng* (Zingiberis Rhizoma), *Gān Cǎo* (Glycyrrhizae Radix), *Chái Hú* (Bupleuri Radix), *Má Huáng* (Ephedrae Herba) and possibly *Rén Shēn* (Ginseng Radix).

strategies that actively seek to dislodge the pathogen from some hiding place rather than just treating the manifestations of its expression, and if the *móyuán* turns out to be a useful concept facilitating such an approach, then the next step would be to define what precisely the *móyuán* is in Covid-19. This will require further research and reflection. In any case, I now interpret the appearance of symptoms like nausea, headaches and body aches that occur as a result of such treatment as a positive sign indicating that the pathogen has moved towards the exterior.[4]

4. Lu Zheng's hidden phase (*fú céng* 伏層) fits the development of long Covid. From Zhou Xuehai's perspective, this phase is characteristic of *móyuán* centred diseases because the qi becomes exhausted by its inability to track down the pathogen. Hence, beyond symptoms of qi, yin or yang deficiency one would expect this phase to be characterised by the flare-up of various symptoms already encountered in previous phases, specifically during the submerged phase. Obstruction of the movement in the vessels by phlegm and blood will increasingly be localised in the networks, be it at the surface or the interior. Wind as well as heat from constraint can also endure. Whether from Lu Zheng's conception of toxin disorders or Zhou Xuehai's notion of hidden pathogens in the *móyuán*, treatment will need to incorporate strategies to eliminate the remaining pathogen into those that tonify and unblock (*tōng* 通).

5. Whether medicinals that resolve toxins and those that track down pathogens in the *móyuán* are similar or even the same is one of the many interesting questions that comes out of my engagement with Covid-19.

4. Interestingly, the contemporary physician Jiao Shude mentions transient nausea as a specific sign in resolving toxins from the body's interior.