

### Ten years after SARS: where was the virus from?

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The outbreak of severe acute respiratory syndrome (SARS) pandemic in 2003 was a hallmark in human history, and will for sure be often recalled just like the “Spain influenza” in literature. Like many others, I witnessed this historic event in my career.

In the spring of 2003, China was badly struck by the sudden outbreak of SARS.

Ten years later, those thrilling memories have gradually faded.

Today, how shall we commemorate this event?

Please, do not forget the deceased and the disabled. Mrs. Fan, the widow of Xinde Fan who was a driver from the Second Affiliated Hospital (SAH) of Zhongshan University but tragically became a martyr during the SARS pandemic, says, “I went to his tomb on the Tomb-sweeping Day this year, but few people know who was Xinde Fan. I hope his deeds will be carved on the tombstone one day.” The deceased have passed away. But, the sorrow of the family members and the pain of the disabled still need care. A group of patients with SARS sequelae in Beijing are calling for a special care fund. “I agree with them,” says Dr. Nanshan Zhong, a CAE academician and director of the Guangzhou Institute of Respiratory Diseases, “They cannot be neglected. They must be cared.”

Please, do not forget those touching moments. The doctors and nurses risked their lives to save patients, and the media strived to find the truth; many families worried but provided substantial supports, and the strangers everywhere never stopped their encouragement and blessings. And, there were also some unexpected romances. They have all warmed our hearts. These spiritual heritages are just the “positive energy” we need today.

Please, do not slow down our steps towards a brighter future. The SARS pandemic promoted the establishment of a more open government, an improved public health system, and, even a healthier life style. It called us to respect life, science, common sense, and rights. They are all the cornerstones for the realization

of a “Chinese Dream”.

They are all unforgettable memories. Before the end of our serial reports on the 10th anniversary of the SARS pandemic, we interviewed three individuals who have witnessed the disaster in 2003. They were medical scientist, poet, and journalist at that time. Ten years later, the memories about SARS remain deeply imprinted in their minds. They are still pursuing their dreams and commemorate the history with their concrete actions.

#### Where did the SARS virus come from? — Still a myth

“One decade has passed by,” says Dr. Jianfeng He with emotion, “We have better disease control system, we have better communication platforms, and the general public’s knowledge and awareness of the prevention and control of infectious disease have dramatically improved. However, the source of SARS virus remains a myth.” A recent report denied the role of civets in transmitting SARS virus and argued that bat is the real culprit. According to Dr. He, however, this is not a new story: early in 2005, some scientists had made the same conclusion. However, up to now there has been no final conclusion.

In January 2003, He and his colleagues conducted an urgent epidemiological survey in Zhongshan City and wrote a report titled “*A Preliminary Report on the Survey on the Local outbreak of An Unexplained Acute Respiratory Infectious Disease in Zhongshan City in 2003*”, which became the first field epidemiological report on SARS. He was still a young expert then. Today, as the chief expert of the Guangdong Center for Disease Control and Prevention (CDC) and the director of Guangdong Institute for Infectious Disease Control and Prevention, he plays an important role in the prevention and control of major communicable diseases such as avian influenza and foot and mouth disease.

**Jianfeng He, chief expert of the Guangdong provincial CDC and the director of Guangdong institute for infectious disease control and prevention**

#### Research on the source of SARS virus is extremely challenging

Nanfang Daily: Recently, in a report titled “Masked palm civet has been wronged for a decade, bat was the real culprit of SARS

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virus”, CCTV cited the argument made by Prof Kwok-Yung Yuen, a renowned professor of communicable diseases from HKU Li Ka Shing Faculty of Medicine, that the natural host of SARS virus was *Rhinolophus sinicus*, or Chinese Rufous Horseshoe Bat. What do you think? Where was the SARS virus actually from?

Dr. He: This is not a new finding. In September 2005, Prof Kwok-Yung Yuen and his research team declared that wild bats were SARS virus’ natural host, and their findings were published in the *Proceedings of the National Academy of Sciences* on 27 September. Meanwhile, Prof. Zheng-Li Shi from Wuhan Institute of Virology, Chinese Academy of Sciences, Prof. Shu-Yi Zhang from the Institute of Zoology, and some researchers from Australia also tracked the source of SARS virus to bats, and their findings were published in *Science* in September 2005. However, these findings remain controversial. The SARS virus carried by bats is quite different from that found in human body, whereas the virus carried by civets has much higher homology. There is a possibility that the virus spread from bats to civets, in which it experienced some mutations before it was transmitted to human beings. However, there lacked sufficient evidences.

In my opinion, tracking the source of SARS virus must be based on objective evidences rather than assumptions. Many people believe that the virus might come from wild animal market, and its hosts might include civets, cats, snakes, wild boars, muntjac, rabbits, pheasants, and bats. However, no specific source has been identified. Today we still do not know where the SARS virus came from and how it disappeared.

Nanfang Daily: Why is the research so challenging?

Dr. He: This can be explained by the relationship between the virus and its hosts. They co-exist. If the host is a person, the premise of a good research is that he/she must survive. He/she can be diseased but can not die. Once he/she dies, so does the virus. Without the stage (the patient) and the actor (the virus), the audience (the scientists) will be hard to find the clues. SARS was highly fatal, with a mortality reaching 10%. Without proper management, the case-fatality could be much higher. Therefore, it was quite difficult to carry out relevant research.

Nanfang Daily: Is it safe to say that research on the live SARS virus is still in an embarrassing state?

Dr. He: You’re right. In addition to the host issues, the requirements for the preservation of SARS virus are also high. Biosafety level 3 (P3) lab is required. Only one or two labs in China meet these criteria. Also, due to high demand for biological safety, research on SARS virus falls into a state of stagnation.

Nanfang Daily: Are there any other research approaches available?

Dr. He: In fact there are many methodologies for SARS research. Currently most scientific articles are focusing on its genes, protein structure, and enzyme regulation. However, since no cases of SARS have been reported among persons up

to now, and there lacks sufficient motivation for SARS research. Therefore, a global joint effort in this regard is needed.

### **SARS called for more openness**

Nanfang Daily: SARS brought a major change in the release of government information, particularly the transparency and openness in addressing major disease outbreaks.

Dr. He: On January 11, immediately after the Spring Festival in 2003, the Guangdong provincial government held a press conference to release SARS-related information. The provincial government had a strong willingness to release this information. It declared the presence of 305 SARS cases, which was exactly the same as the figure in my computer. There was no concealment. After the SARS outbreak, the Regulation of the People’s Republic of China on the Disclosure of Government Information was issued, which was a milestone document.

Of course, our lessons from the SARS pandemic were not only the information disclosure. More importantly, the government changed its attitude towards public health. After the SARS outbreak, the government dramatically increased its inputs on the prevention and control of communicable diseases in terms of equipment and personnel. The health care providers also have paid more attention to communicable diseases. In addition, the general public’s awareness and knowledge have also been improved.

Nanfang Daily: In terms of disclosure of outbreak information, are we doing better today?

Dr. He: Yes. The release of outbreak-related information has become very transparent. In addition to the monthly reports, there are also many irregular reports on public health.

Nanfang Daily: Are there any shortcomings?

Dr. He: Sure. In July 2003, I attended a workshop on communicable diseases held by Hong Kong Department of Health and was highly impressed by the information openness in Hong Kong. For example, Dr. Thomas Tsang of Hong Kong Department of Health received a report on a case of Dengue fever at 17:00 pm, then he briefed the media about the disease situation at 17:30 pm. I was shocked by the speed. I think one day Hong Kong’s practices will be applied throughout the Mainland China.

It is critically important to communicate with the general public in a full, routine, and multi-dimensional manner. In addition, we shall also be able to remind the people whether there is a potential for an outbreak of a communicable disease; once a pandemic comes, the government should promptly release official information to stop rumors. Even if there is no outbreak, efforts should also be taken to encourage the general public to live a healthy lifestyle. For example, the Cantonese people have the habit of eating wild animals, which can pose the risk of virus transmission. Therefore, the general public should



**Figure 1.** Shu-hong Qiu, author of the famous poem “In the Name of Life” during SARS epidemic.

be educated to stop eating wild animals.

### Shu-Hong Qiu, author of the famous poem “In the Name of Life”

#### *We'd better not “In the Name of Life”*

During the key days in the fight against SARS in 2003, the CCTV held a large evening event titled “*In the Name of Life*”. The event, as well as a poem with the same title, greatly encouraged the Chinese people, especially the medical staff.

Little known is that this famous poem was not written by professional poet; rather, its author is an official from Guangdong Province.

#### *Written at night and then adopted by CCTV*

“Look, this is the manuscript. The date is still on it.” Shu-Hong Qiu (Figure 1), an elegant gentleman, smiled.

It was on the night of April 29, 2003, Qiu, the then municipal standing committee member and secretary general of Zhuhai municipal government, returned his house after a busy trip in hospitals. However, he could not fall asleep. Suspected cases had also been identified in Zhuhai, and related rumors were everywhere. The doctors and nurses were working day and night. None of them wanted to take a leave, and quite a few of them expressed their strong wishes to join the Communist Party in such a dangerous moment.

Again and again, he recalled the moving scenes that the medical staff risked their lives to fight against SARS. Ironically, they were

just the people that had been repeatedly criticized in the media. “In this critical moment, it is the medical staff who fight on the frontline to save lives, even sacrificing their own lives!”

Deeply touched, Qiu had a strong desire to glorify the life; then, the soulful poem, titled as “In the Name of Life”, was written with passion.

He submitted the poem to the People’s Daily. To his surprise, it was published very soon. On the evening of June 9, there came a call from a poet in Beijing, “Watch TV quickly! CCTV is broadcasting your poem!”

That night, the Chinese Writers Association and CCTV held a large thematic poetry event titled “In the Name of Life” to call for the fight against SARS. Qiu’s poem, representing the theme of this party, was jointly read by Zhong-Xiang Zhao and many other famous anchors and actors. The audience was deeply moved by the poem. Later, the Chinese Writers Association produced some flyers with these poems and distributed them to Beijing Xiaotangshan Hospital and nationwide. These poems brought encouragement and warmth to the medical staff who were fighting on the frontline.

#### *“Positive Energy” should never be forgotten*

“Today when my friends meet me, they will always say ‘in the name of life’. I was quite proud initially, but now I am a bit tired of it. Why not use other phrases?” Qiu said with a wry smile.

In 2008, after the Wenchuan earthquake, the Sichuan Earthquake Relief Event used “In the Name of Life” as its title. On August 15, 2010, the catastrophic mudslides occurred in Zhouqu County, Gansu Province. When the journalist during the live coverage used “in the name of life” as his opening remarks, Qiu’s proudness vanished; instead, he felt deep helplessness and sadness. “Should life suffer from disasters, natural or man-made, again and again? Do we just pledge, again and again, ‘in the name of life?’”

Qiu thought it was time for us to rethink about life and disaster. In his opinion, the fight against SARS has left us many treasures, which included not only the methods and skills to save lives during a tremendous disaster but also the respect and care of life itself. Why not pay more attention to the inner world of each individual to develop a more harmonious social environment and more peaceful living status?

“We should not forget the spirit and ‘positive energy’ seen in the whole society during the SARS pandemic. We should not forget the love and friendship. Particularly, the so-called ‘Anti-SARS Spirit’, which include ‘bravery, calmness, realisticness, respect for science, selflessness, tenaciousness, unity, and courage, are also urgently needed to today’s society.” Said Qiu.

In recent years, Qiu’s poems have been criticized by some reviewers to be “too positive”. But Qiu himself does not agree. In his mind, plural as poems can be, the human beings need



**Figure 2.** On the SARS Frontline—a complete record of a Guangdong reporter.

spirit, and therefore need to be guided, just like a flock of sheep or geese need their leaders to find the proper way. Therefore, if a poem is written for the society and the general public, it should deliver “positive energy”.

### Shu-Mei Zhang, Journalist of Nanfang Daily

#### *A report and the style of a journalist*

Recently, I have been frequently interviewed by some media such Phoenix TV for the 10th anniversary of the SARS pandemic.

On July 22, 2002, I formerly left Southern Metropolis Daily and joined Nanfang Daily, serving as a health journalist in the news center. During the Spring Festival of 2003, when I was spending the holiday with my mother and grandmother, I received many text messages on my phone, asking “what the hell is the mystery disease found in Guangzhou?” I immediately called a correspondent in a major hospital and was told that such a mystery disease did exist; in fact, the number of cases was increasing, and some patients had died. However, since no one knew what disease it was, let alone its causes, the whole city had fallen in panic. Friends working in hospitals asked me to bring some Radix isatidis and white vinegar to Guangzhou.

When I arrived at the Guangzhou Baiyun International Airport, I was welcomed by a very strong smell of vinegar. Then, I immediately began to interview doctors who were working in the isolation ward in SAH. The yard of SAH was nearly empty, except a few workers in white protective clothing. When I arrived

at the contact person’s office, I also was shocked: all the office personnel wore the white gown, together with masks and hats. They can only be identified by their eyes; in fact, I could hardly distinguish males from females. Unfortunately, I had nothing prepared, not even a mask.

A few days later, I went to Beijing to cover the National People’s Congress and the Chinese People’s Political Consultative Conference. Since Dr. Nan-Shan Zhong was also a delegate in the sessions, I interviewed him about the outbreak. The worried scientist told me that the outbreak had not been effectively controlled and had spread to other countries and areas; international corporation should be sought.

Dr. Zhong took a very serious attitude towards this interview. He asked my colleague Xiao-Ling He to print out the report manuscript, and he carefully revised it using a pencil when he was lying in a hospital bed. Although this 6,000-word interview report failed to be published for various reasons, Dr. Zhong’s insights about the outbreak were confirmed by the situations in the coming months. In 2004, the original copy of the interview manuscript that had been revised by Dr. Zhong was housed by Guangdong Provincial Archives.

Early in May 2003, I received a call from Ms. Song-Yu Lin, an editor of the magazine Hua Cheng (or, Flowers’ City). She asked me to write a book about SARS. At the beginning, I hesitated, although I did have collected much material. Finally, I agreed. In the coming days, I interviewed by day and wrote the book at night. On May 20, I submitted a 100,000-word manuscript titled On the SARS Frontline (Figure 2) to the editor.

One day, Ta-Yu Lo’s concert was held in Guangzhou Tianhe Stadium. Like many of his fans, I watched the concert, with a mask on my face. It happened to be the day when a group of experts in Beijing declared that the SARS was caused by chlamydia. A correspondent told me that Dr. Zhong was very angry at this news. He totally disagreed with this statement. Then I passed this message to Mr. Gong-Wei Duan, who was then the deputy director of the news center, and asked him to interview some local experts of different opinions.

The next day, only the Nanfang Daily reported this news with a question mark, “The Pathogen of SARS is chlamydia?” (Reported by Gong-Wei Duan, Nanfang Daily, February 19, 2003). This was a short report. And, it seemed very common. But, its appearance in a mainstream news paper did represent the style of all journalists from Nanfang Daily.

Ten years later, I remain a journalist. Of course, I am still often moved by many memory fragments, among which was a message text: “If you are still on duty now, you are a soldier; If you are wandering in the streets, you are a warrior; If you are isolated, you are a hermit; If you do not reply my message, you must have tragically been a martyr.”

Then, what will you recall when you read this message, my friend?



### In the Name of Life

In the name of life—

The snow-white gown,  
Shining the incomparable holiness,  
You represent the blue sky,  
You represent the sweet life.

In the name of life—

The ever-burning candle,  
Guiding the long, rocky way,  
You stamp thorns for the diseased,  
You protect the world far from pain and plague.

In the name of life—

A burning heart,  
Igniting the brightest desire.  
You fall down,  
When thousands of others stand up.

In the name of life—

A fearless spirit,  
Waving the holiest flags.  
We are together on this rocky way,  
For the final victory of the human beings.

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