National Forensic Doctor

"Xiao Wang also likes to tinker with computer software. In the past, when our county came to assist in the investigation, it was arranged by Xiao Wang." Lao Yan made an endorsement for Xiao Wang, and also rectified the name of the only trace inspection in the county. .

But Wang Zhong smiled shyly, and said modestly: "My work is incomparable to that of Forensic Doctor Jiang. You are a hard-working fingerprint maker. I mainly just run to the fingerprint database."

The fingerprint database is constantly updated, and the main body responsible for the update is the trace inspection police from all over the country. They are responsible for taking pictures of the collected fingerprints, filing them, filling in instructions, and sometimes manual processing before putting them into the fingerprint library. In addition, using the fingerprints of old cases before the computer system also requires manual checks and other operations before they can be put into storage.

From time to time, I take out the fingerprints of the old cases and run around, which is a kind of running warehouse. Suspects who could not be matched before may be matched one day after a drunk driving or a fight. Even if the criminal The suspect has applied for a temporary residence permit, the lonely fingerprints may be matched, which can be described as the beauty of adults.

In addition, some people commit crimes in other places and cannot find a match in the local fingerprint database, but they may have fingerprint information in the fingerprint database in other places. This kind of fingerprint is not necessarily complicated. After receiving the assisted investigation letter , use the most traditional mode to roughly mark the feature points, and then run the fingerprint database, and if there are dates or no dates, two shots may be hit.

Running the warehouse is also the daily routine of most ordinary trace inspection police. If Jiang Yuan does not have a system, it will be good to be able to run the warehouse in the first few years. Therefore, he said kindly and sincerely: " It doesn't matter if the cat is white or black, if you catch a mouse Just a good cat."

Wang Zhong immediately felt that Jiang Yuan was a good young man who could get along with him, so he made a more self-effacing analogy: "In terms of catching mice, you are a raccoon cat, and I am at best a puppet cat "

All the people present looked at Wang Zhong's rough skinned cheeks, which appeared all the year round and stayed up all night, and then looked at the fair and gentle Jiang Yuan, and fell into euphemistic contemplation.

"You just said there was a case?" Wu Jun reminded.

"Yes, yes, yes." Wang Zhong sorted out his words before saying, "It's an old case more than ten years ago. When I ran out of the warehouse, I was quite impressed. The case is simple to say, it is a few high school graduates drinking wine , was drunk, had a conflict with a young man passing by, and was knocked over by someone picking up a stool. Unfortunately, the student who was beaten was blinded in one eye, which became a serious injury."

"You said you were blind in one eye, and I remember that. At that time, the college entrance examination was still in July. When the scores came down, the weather was hot, and there were students who drank beer and made trouble everywhere. The university admission rate was low back then. The students who went to other places, as well as the repeat students, were looking for faults everywhere. The most serious case was this case. The student who was beaten was still a top student and had passed the college entrance examination. I guess this is also the reason for the beating." Forensic doctor Wu recalled the past with emotion: "It's still Forensic appraisal done by my master."

"It's this case. At that time, it was speculated that the suspect might be a foreign student who came to play, or he might have come to work, and ran away after something happened." Xiao Wang nodded.

More than ten years ago, Yan Ge was a little far away, and he didn't read the files, so he asked directly: "Didn't you set up a task force?"

"The county set up a task force, but the main thing was to search and investigate, and the suspect was not identified in the end."

"It's in the city."

"Didn't enter the market."

"The Qinghe Municipal Bureau basically didn't do any business before the sinking took place." Wu Jun explained. In the early years, the provincial departments and municipal bureaus were doing business guidance instead of doing business directly. To put it more simply, they do not handle cases directly.

For example, the provincial department has a total staffing of only a few hundred people. Even major and important cases cannot be handled. Even daily work needs to be seconded to people from the districts and counties below. Work.

The manpower of the Municipal Bureau is slightly tighter, and it has been required to go down and handle cases directly in recent years, but for backward areas like Anping City and even Shannan Province, the requirements are the requirements, and the reality is the reality.

Therefore, not only did the intentional injury cases more than ten years ago fail to reach the city bureau, but even now, serious injury cases have to have a great impact before organizing a city-level task force. Of course, if it were a homicide case, that would be another matter.

"Fingerprint clues are also problematic." Xiao Wang went on to introduce, saying: "At that time, the fingerprints were extracted from the stool leg that the suspect used as the murder weapon, but the stool leg was made of round steel pipe..."

"Oh..." Yan Ge and Jiang Yuan both showed stunned expressions. The extraction of cylinder traces has always been a major problem in criminal investigation. The curved shape makes the fingerprints seriously deformed, and the curved surface makes the reflection serious when taking pictures...Although the fingerprints can still be obtained, the integrity of the fingerprints and the Accuracy will be greatly reduced.

"The fingerprints taken back then were probably fixed by segmented shooting method, and the deformation must have been quite large..." Yan Ge guessed, and then said with emotion: "At that time, we also went to train some auxiliary methods for shooting the surface of the cylinder, that is A special machine that shoots while turning around, only the provincial capital bought it in the end, and it takes a few applications to use it, but now it's ready, the phone is turned on, and it can take a panoramic shot, which is even easier to use than that one!"

Jiang Yuan laughed dumbfounded, opened the software on the computer and found out the case.

The four fingerprints left by the suspect soon appeared on the screen, and several people looked at it with their heads hooked.

In just a few seconds, both Yan Ge and Wang Zhong gave up hope.

The clarity of the image is acceptable, but there are many breakpoints. Needless to say, it must be difficult to judge. The most important thing is that there are obvious extensions on the left and right sides of the fingerprint, and the lines of the deformed part are obviously wider and thicker. In this way, the image must be deformed first, and then the fingerprint is marked. In terms of difficulty, it is absolutely It is an advanced requirement.

As far as Yan Ge judged, let alone him and Xiao Wang, it is hard to say whether it will produce results even if it is sent to the city or even the province.

Wang Zhong has been paying attention to this case since he ran out of the warehouse. At this time, he said with great interest: "The advantage of this case is that the fingerprints on the murder weapon, except for these few consecutive fingerprints, have been ruled out. In addition, at the beginning I hired a portrait artist to draw a portrait of the suspect, although it has been so many years, but there are fingerprints and portraits, so it should be relatively easy to confirm."

Everyone present couldn't help nodding. This is indeed an advantage. The number of accumulated cases that can be solved through fingerprints is limited, and it is even more difficult to directly convict. In addition, there are portraits, parties and witnesses. If the fingerprints are matched, the person can be arrested and the case closed.

Of course, the premise of everything is to be able to compare fingerprints.

Lao Yan and Xiao Wang, including Wu Jun, all looked at Jiang Yuan.

Jiang Yuan smiled unconsciously.

"It seems that Jiang Yuan is sure." Xiao Wang suddenly envied Jiang Yuan a little bit.

"I'll give it a try." The main reason for Jiang Yuan's smile was that the fingerprints left by the suspect happened to be bow-shaped. If it weren't for this, he would have to evade the case.

As for the difficulty, based on his two-day fingerprinting experience, it seems to be within range. It's just not likely to happen overnight.

Wu Jun laughed at this time, and said: "Solving the case belongs to solving the case, resting belongs to resting, don't worry about it today, it's all backlogged cases anyway, it's not bad for a day or two..."

He interrupted on purpose. Anyway, Yan Ge and Wang Peng are both professional trace inspection policemen in the team, while Jiang Yuan is a forensic doctor and his apprentice. It's not a big deal for two trace inspection policemen to watch Jiang Yuan, a young man, do fingerprints.

"Indeed, you guys are probably exhausted from handling corpses these two days, so take your time." Yan Ge also laughed, and pulled Wang Zhong away.

Wu Jun and the others went out, took a drink from the teacup, and said to Jiang Yuan: "Don't worry, it's time for lunch break soon, it's time to tidy up, it's time to eat, do you want to cook another meal today?"

Jiang Yuan was really not in a hurry, and asked, "Can the cafeteria in the team cook their own rice?"

Wu Jun waved his hand: "There's no need to look for them, the police dog squadron also has a kitchen."

Jiang Yuan: .ʕ⊙‿⊙ʔ.

The police dog of the Police Dog Squadron of the Ningtai County Criminal Police Brigade is named Da Zhuang, a four-year-old Rottweiler with a strong physique and a square, bald face. The average daily food standard is 45 yuan.

Compared with the police dog Heizi in Longli County next door, Da Zhuang is younger, more handsome, and stronger. But it is precisely because of its youth that it does not have a medal of merit on its chest, and there is no joint construction project between the police and the people behind it. Therefore, its daily food expenses are 30 yuan less than that of Heizi.

Da Zhuang didn't know this, so his mood was still very stable. When he saw someone coming, he still had pure happiness in his eyes, and his tail fluttered lightly.

"Da Zhuang, sit down." The trainer probably felt that the police dog wagging his tail was a bit embarrassing, so he came from the other side of the wall and yelled loudly.

Jiang Yuan followed the voice and saw a tall policewoman with long and slender side legs, a slender waist and straight back, just turned around.

At that moment... Jiang Yuan felt that her face resembled a Rottweiler.

The face is square, the eyebrows are straight, the ears are floppy, the almond-shaped eyes are slightly black and brown, and they seem to have a sad expression.

"Li Li, let me borrow your kitchen to make fried rice. Do you have rice and eggs?" Wu Jun greeted him bluntly, introduced Jiang Yuan by the way, and said, "My apprentice, the fried rice is quite delicious."

Li Li nodded politely to Jiang Yuan, and then said: "You pick up a few eggs from Da Zhuang's basket first, and there is also meat in it. I will ask the food delivery person to make up for it in the afternoon."

Da Zhuang sat up straighter when he heard his name.

This is not the first time Wu Jun came to Ceng Da Zhuang, he responded with a smile, and asked again: "Have you eaten yet? Have fried rice together?"

"Okay." Policewoman Li Li responded readily, and said, "It's just right, I'll spare some time to cook for Da Zhuang."

The three of them then talked and entered the kitchen of the Police Dog Squadron.

In terms of basic construction alone, the conditions of the police dog squadron are worse than that of the criminal police team. The police dog training site is hardened land, and the surrounding courtyard walls are also the simplest red brick cement. , it may be a dog police. The staff did it themselves.

The independent kitchen of the Police Dog Squadron is just two bungalows. It may be dated back to the 1980s and 1990s when it was built. It can only be said that Ningtai County, a small county under a prefecture-level city, has not achieved much in terms of competition for the dividends of the era.

The equipment in the kitchen is complete, especially a large pot with a strong stove, which looks quite professional, but Li Li pointed to the ordinary small stove next to it and said: "Use that one, here It's for Da Zhuang. How much meat should you cut?"

"No meat. I know how to make vegetarian fried rice." Jiang Yuan said, "Eggs, rice, a little green onion and oil are enough. Do you want to make more for the police dogs?"

"No need. Your fried rice is too nutritious to feed dogs."

As Li Li spoke, she took out the ingredients from the refrigerator, gave some of the rice to Jiang Yuan, and threw all the pig's trotters into the dog rice bowl; gave some of the eggs to Jiang Yuan, and threw all the chicken chops into the dog rice bowl; Throw all the chopped carrots, broccoli, and cabbage into the dog rice bowl...

The food standard of 45 yuan for police dogs is pure food expenses, just like the food standard of 75 yuan for the meritorious dog Heizi and the 19.3 yuan standard for recruits. and labor costs. So it will be enough to eat.

Under the benchmark, Uncle Seventeen's fried rice with eggs costs 1.2 yuan per pound of rice for three servings; half an egg costs 0.5 yuan; vegetable oil and spring onions add seasonings, etc., and 0.8 yuan is enough—calculated in this way, The total cost of the meal for Jiang Yuan and others was 2.5 yuan, and the per capita food cost was about 0.8 yuan...

But Uncle Seventeen's LV3 egg fried rice skills still make this meal look delicious.

In contrast, Li Li's cooking skills are probably not even in LV1. This point can be guessed from the way Da Zhuang eats while sniffing, and Li Li's state of gobbling.

"Come here often when you're free." Li Li ate a few mouthfuls and drank half a glass of water in one gulp, then patted her chest and said to Wu Jun: "Captain Wu, you recruited a talent this time, and this is the person who does things.

Can you borrow it from our squadron? Look at Da Zhuang, the other dogs are all rushing to eat, and he can't wait to be left behind..."

"I don't care about employing people." Wu Jun smiled and shied away, quickly finished the fried rice, got up to pick his teeth, and said, "We still have work in the afternoon, and I leave the dishes and chopsticks to you to clean up."

Wu Jun, who was full of food and drink, called Shang Jiangyuan and left, moving skillfully like a regular customer in the alley of Sanlipu.

Jiang Yuan looked back at Da Zhuang, and saw him eating the forty-five yuan in the basin with a calm expression. Not fast, not slow, with a calm expression like a car that is fueling itself.

"The police dog trained by the policewoman is called Da Zhuang, which is a bit strange." Jiang Yuan chatted as he walked.

Wu Jun smiled and said: "It should be the name given by her previous trainer. They also said at the beginning that the first dog was called Da Zhuang, and the second was called Er Zhuang. They kept barking all the way, neatly. "

"Where is Er Zhuang? Are you out on duty?"

"If a dog is brought in, the plan will stop." Wu Jun curled his lips and said, "What Team Yellow means is that dogs are too expensive, and one dog is enough. For the remaining money, it is better to hire a few auxiliary police officers."

Jiang Yuan thought for a while and nodded in agreement.

noon.

Jiang Yuan slept on his stomach for half an hour, got up again, opened the fingerprint of the intentional injury case suggested by Xiao Wang in the morning, put it in a big picture, and looked at it seriously.

The suspect left four consecutive fingerprints with different clarity and completeness. The first thing to consider is which fingerprint to focus on.

In terms of integrity, the little finger should have the highest integrity, but it also has the highest probability of not being matched. Because the probability of fingerprint sampling to the little finger is the lowest, many places apply for

temporary residence permits and the like, they use the thumb or index finger, and the same is true for fingerprint punching and so on.

Relatively speaking, the integrity of the index finger is the lowest among the four fingerprints left by the suspect. Moreover, the extension is very wide and the deformation is the most serious.

Jiang Yuan pondered for a while, enlarged the image of his index finger, and began to study it.

The difficulty of marking the fingerprint of the little finger is relatively low. Of course, because the images are taken in sections from the cylinder, it may not be possible to do it at the level of Lao Yan and Xiao Wang, but since they participated in the fingerprint battle a few years ago, then It should still be tagged correctly.

Therefore, the main reason why the little finger cannot be compared is more likely that there is no match in the fingerprint database. And this situation cannot be compensated by technology.

Most likely because of the technology itself, the fingerprint that was never matched was the fingerprint of the index finger.

This fingerprint is very severely deformed. It is conceivable that when the suspect hit someone with it, his grip must have been so strong that some of the fingerprint papillae of his fingers were squeezed together, and some of them were separated. It's like a winding mountain road, which is flattened by a giant's foot.

Jiang Yuan still opened Photoshop and tried to use Photoshop-CS5 to do "edit-transform".

This step seems to restore the winding road to its original spacing and size on the plane.

Jiang Yuan first fine-tuned the left and right to the center by 5%, felt that it was not enough, then adjusted it to 10%, then 20%, and then fine-tuned it back a little...

There are no specific templates for these operations. If there is any reference, the distance between the baseline ridges of ordinary people's fingerprints is

0.52mm. When the unit is fine-tuned by 1%, a number representing the average value is really meaningless.

On the other hand, because the fingerprints are taken in sections, and the technology of the current survey police is not very strong, so there seems to be problems with the shooting angles of different photos. It is obvious that the synchronization is not enough.

Various factors intersected, so Jiang Yuan tried many times, but he failed.

When he was about to get off work, Xiao Wang ran over again, approached Jiang Yuan mysteriously, and said in a low voice: "I checked, and this case has participated in three fingerprint battles, but there was no result."

"In the province?" Jiang Yuan paused the mouse.

"The first time was in the province, and the next two times were in the city." Xiao Wang paused for a moment, then smiled again: "The first time was in the era of horseshoe mirrors, and there was no automatic fingerprint system. The second time, there will be one." , with the same result."

The horseshoe mirror is a hand-held magnifying glass, the main part of which is similar to a microscope lens, and needs to be viewed with the eye against one end of the eyepiece. Traditionally, it has been used for fingerprint matching, document inspection and even physical evidence search, etc. It can also be used with a camera to take pictures and extract fingerprints. Before the emergence of automated fingerprint recognition technology, the horseshoe mirror was the most powerful weapon in the hands of trace inspection.

Xiao Wang's so-called horseshoe mirror era refers to the time before automatic fingerprint recognition technology became popular. In the fingerprint battle at that time, fingerprint experts were no longer primates with sparse hair sitting in front of the computer, but a group of A hairless primate holding a horseshoe mirror and a fingerprint chip in the other.

The matching of fingerprints also relies on rich experience and memory.

Jiang Yuan nodded slightly after listening to Xiao Wang's words. From his understanding, the current case is a case that has received relative attention, but has not received top-level attention. As for serious injury cases to this

extent, there are more than ten years of accumulated cases. With this level of criminal investigation resources, it is basically over.

"I'll run it again." Jiang Yuan edited the feature points of the fingerprint he had just adjusted, and then threw it to the automatic fingerprint recognition system to run.

Soon, a row of candidate fingerprints is listed on the right side of the screen.

Jiang Yuan and Xiao Wang looked at the 20 candidate fingerprints listed from top to bottom, and it was no surprise that they were only disappointed.

"It's just a matter of luck. Even if you win the competition, you won't be ahead." Xiao Wang's technical ability is average, but he has some foresight.

Jiang Yuan agreed: "Indeed, with such a large adjustment range, the order given by the system is of little reference value. The fingerprints ranked 50 may also be the fingerprints of the suspect..."

"If it doesn't work, forget it. I'll look for other cases later." Xiao Wang sighed, and walked back as he spoke.

Jiang Yuan held the mouse and moved it to the right. After thinking for a while, he directly set the number of fingerprints on the candidate inspection list to 150.

In this way, the number of matching fingerprints given by the system each time will be more than seven times the original number, and the closer the fingerprints are to the back of the list, the lower the probability of matching.

Jiang Yuan was not in a hurry at first, and after making a decision, he looked at the fingerprints with peace of mind.

After a while, a translucent system prompt appeared in the field of vision——

Task: Compete in Liu Yu's injury case and assist in the detection of the case.

Task content: The victim needs to be comforted, the perpetrator needs to be punished, and both parties need peace of mind. help them.

Jiang Yuan couldn't help being amused, he was going to put down this intentional injury case, but now with the system bonus, he can hold his breath even more.

"exclude."

"exclude..."

Jiang Yuan clicked the mouse from time to time to delete the fingerprints he had seen from the list. In this way, in the next wave of matching, the fingerprints given by the software will not be repeated.

Still, the complexity of fingerprint matching remains unchanged.

Every time Jiang Yuan re-marks the feature points, he has to re-read 150 fingerprints, with an average of 30 seconds to read one fingerprint, and it takes an hour to read a set of fingerprints.

This is also caused by the complexity of fingerprints. If you have irrelevant fingerprints, you can turn the page at a glance, but the fingerprints matched by the computer have a relatively high degree of similarity, and it takes a little effort to eliminate them.

However, the fingerprint matching job is like this, especially the difficult fingerprints, always hovering between "Are my feature points marked correctly" and "Is there this fingerprint in the fingerprint database?"

Jiang Yuan was no exception. When he was fine-tuning the fingerprint for the fourth time, he stopped involuntarily.

"It should be adjusted to a larger one." Jiang Yuan burst out this idea unconsciously.