Teaching Chinese Pulse Images

The Three Step System of Chinese Pulse Reading

Frances Turner

This article starts by outlining the challenge of pulse diagnosis and the problems that can arise in getting to grips with the 28+ pulses of Chinese medicine. It goes on to offer a way of meeting this challenge: The Three Step System of Chinese Pulse Reading. It presents the Three Steps in a systematic and simple way, highlighting confusions that can arise in the translation of Chinese pulse images into English, and shows how The Three Step System can make accessible a subject that sometimes seems difficult and unapproachable.

Keywords
Pulse diagnosis, Chinese pulse characters, Chinese medicine, teaching.

The challenge of pulse diagnosis

Diagnosing from the pulse is an area of Chinese medicine that often seems full of contradiction, confusion and differing approaches. Talking to practitioners at the British Acupuncture Council (BAcC) conference[1], it is clear that pulse diagnosis is extremely important to many of us. The moment of taking the pulse is often a chance to really connect with our patients, and it is from this connection that deep insight into the patient's condition can often arise.

A typical practitioner response to pulse taking at the conference was 'I know what I feel, and I know what to do when I feel that, but I don't know what you'd call it'. Personal interpretations of the pulse can indeed have great clinical relevance. However, intuition alone leaves us without a common language with which to communicate with each other about the pulse. This can lead to a certain insecurity with pulse taking and an uneasy feeling among practitioners that we are not very good at it.

Insecurity with pulse reading is reflected in my experience with students, who always seem to find pulse diagnosis far harder than, say, tongue diagnosis. In part, this may be to do with the dominance of the visual sense, in that we tend to be much better at giving precise definitions to what we see than to what we feel. However, this perhaps innate difficulty can be compounded by the way we approach pulse teaching.

There is much disagreement and commentary in the classical texts about pulses. The *Nan Jing* (*Classic of Difficult Issues*), for example, compiled sometime in the first or second century CE (Han Dynasty), presents interpretations that disagree with those found in the earlier *Nei Jing* (*Inner Cannon*). Even in antiquity, this generated confusion and conflicting information, because although the innovative ideas presented in the *Nan Jing* were accepted as such by some commentators of the time, others simply added them to the old ideas as extended meanings (Unschuld 1986:283). This is an example of the cumulative nature of Chinese medicine with its resulting tolerance of contradiction (Unschuld 1985:57-8).

The *Mai Jing* (*Pulse Classic*), written by Wang Shu-he in the second century CE, opens with a description of twenty-four pulse pictures that are totally recognisable as those we use today (Yang 1997:3-6). It also clearly delineates the three pulse positions familiar to us and associates both cubit (*chi* 尺) positions with the kidneys and bladder (Yang 1997:7). However, subsequent pulse writing continued to conflict, and even famous Ming and Qing Dynasty texts (such as the *Bin Hu Mai Xue* (*Lakeside Master's Study of the*

Pulse) by Li Shi-Zhen (Flaws 1998), the *Jing Yue Quan Shu* (*Jing Yue's Complete Book*) by Zhang Jing-Yue and the *Yi Zong Jin Jian* (*Golden Mirror of Ancestral Medicine*) still disagree, for instance about which organs should be read on the *chi* position (Flaws 1995:137-140).

Variation in pulse reading and interpretation continues to this day. For example, some contemporary western schools build their protocols on an understanding of the *Nan Jing* (European Institute of Oriental Medicine), on the experience of a particular doctor (Hammer 2001) on the Japanese tradition (Toyohari pulse diagnosis) or on the concept of force (Five Element acupuncture). Some schools of pulse reading listen for the mitral heart valve pulse (Hammer 2001) or for the *wei qi* on the pulse (Yuen 2004).

However, as practitioners of Chinese medicine we have at our disposal the 28+ standardised pulses that have agreed technical definitions and meanings within the contemporary discipline of Chinese medicine. I find these 28+ pulses to be a useful starting point from which more understanding can be added. They lay out the basic parameters of speed, regularity, depth, force and quality, and present common combinations of these parameters as named pulses.

What we experience on the pulse in our contemporary western culture may well differ from what was experienced when the 28 pulses were formalised. On the one hand I have never felt the *dong* 動 (spinning bean/stirred up) pulse, and on the other, I wish there were a special name for a pulse that I feel quite often that is both wiry (*xian* 弦) and floating (*fu* 浮). But even with these caveats, I find that the 28+ pulses usefully reflect many common pulses we see today, and perhaps give us a context for other pulses that we may experience.

The language of the 28+ pulses gives us a neat set of pictures that can be used both as pulse images in their own right and also as building blocks for more complex pulse images. Learning these pictures gives us a solid basis for a common pulse vocabulary, and a context for new interpretations of the pulse. As such I believe they are worth really getting to grips with.

Getting to grips with the 28+ pulses

There is a double problem facing a student or practitioner who wants to get to grips with the 28+ pulses of Chinese medicine. The first problem is to do with language and translation. Pulse reading is one of the areas of potential confusion in the teaching of Chinese medicine that can be linked to terminology and translation choices (Turner 2003, 2004). This is because many pulses have several different translations; for example the *xi* 細 pulse is variously translated as fine (Wiseman and Feng 1998:200), thin (Hyunh 1981) and thready (Cheng 1987) and many students do not understand that all three of these words mean the same pulse.

Conversely, sometimes one English word is used for more than one Chinese pulse. For example, *wu li* 无力, literally meaning 'without strength' is often translated as weak. This is a natural translation into English and as such is no problem. However, a problem arises because the *ruo* 弱 pulse, which is specifically defined as deep and forceless (Maciocia 2004), or deep, fine and forceless (Flaws 1995, Yang 1997) is also usually translated as weak.

This problem is compounded by a couple of complications in the Chinese nomenclature. For instance, the empty (vacuous/deficient) and full (replete/excess) pulses (*xu* 虛 and *shi* 實) both have two meanings in Chinese, a generic meaning and a specific meaning. Thus an empty pulse in its specific sense means a pulse that is floating, large/wide and forceless (Wiseman and Feng 1998:653), while in its generic sense it means any kind of forceless pulse (Wiseman and Feng 1998:544). Equally, a full pulse in its specific sense means a pulse that is long, wiry, large/wide and forceful (Flaws 1995:31), while in its generic sense it means any kind of forceful pulse.

In these cases it is useful to stick to the specific meanings rather than the generic ones, and to use the words forceful and forceless if a general word for force is necessary. Force is such a basic component of pulse diagnosis that I include *wu li* 无力 (without strength) and *you li* 有力 (has strength) as basic pulse vocabulary, even though they are not technically specific pulse images in themselves.

Further, the pulse that is fine, forceless and floating has two names in Chinese: *ru* 濡 (soggy) and *ruan* 耎 (soft) (Flaws 1995:27, Wiseman and Feng 1998:544). This is because the soft pulse is described as soggy (Yang 1997:4). Consequently, Flaws (1995) emphasises that the words soggy and soft both refer to the same specific pulse. However in the *Mai Jing* a soggy pulse can clearly also be deep, as in, for example, the description of the normal kidney pulse as deep, soggy and weak (Yang 1997:64, 76, 81).

The second problem facing a student wanting to get to grips with the 28 pulses is to do with connecting a specific word to a practically felt pulse sensation. Students not only have to know theoretically that the *xi* 細 pulse feels like a fine thread, they also have to be shown by an experienced practitioner an example, or preferably a whole series of examples of that pulse. That way they will be able to confidently link a specific feeling with a specific pulse image, and they will see how that pulse can vary relative to a patient and his/her body type. This concept of relativity in pulse reading was recognised in antiquity, and is neatly expressed in the *Mai Jing* (Yang 1997:10).

The Three Step System of Pulse Reading

Over the past six years I have taken on the challenge of teaching the 28+ pulses to students at the London College of Traditional Acupuncture (LCTA)[2]. I agree that to have a chance of success, a student needs to learn the vocabulary of all 28+ pulses (Flaws 1995:8-12, Maciocia 2004:466). However, I have found that to expect students to learn them all at once is counterproductive, and feeds into the general insecurity that pulses are difficult, if not impossible.

Consequently, I have developed a system of introducing the 28+ pulses in Three Steps. The beauty of these Three Steps lies in their simplicity and in their application. The Three Step System can be used to learn the pulses, and can at the same time be applied in clinic as a practical aid to pulse taking.

The Three Step System is not in itself a system of interpretations of pulses, but rather a systematic way of asking oneself questions about the pulse that can arrive at a specific pulse name. It is inclusive, in that it can be used by any system of interpretation. Working with staff at LCTA, it surprised and encouraged me that once the vocabulary had been clarified, there was a strong degree of consensus between us as to which pulse we were feeling. Over the years, I have found that even staff who work with a non-TCM way of taking the pulse have found the logic of the Three Step System approach to be useful.

Working with the 28+ pulses, it becomes obvious that there are not really 28 different pulse sensations. Quite a number of pulses are names given to a specific combination of other pulses. The example above of the *ruo* 弱 pulse is a case in point. This pulse is defined as deep (*chen* 沉), forceless (*wu li* 无 力) and fine (*xi* 細), and there is a series of pulses that are used in this way as building blocks for more complex pulse images. In the Three Step System, the entire spectrum of such building-block pulses is covered in Steps One and Two. Step Three details further ways these can combine to give rise to additional floating and deep pulse images.

The Three Step System aims to do two things. Firstly, it involves a clear differentiation of the individual pulse images and their specific characteristics, referencing each translation word used to the *pinyin* transliteration and the Chinese character, and being very clear when different words are simply alternative translations of one Chinese pulse image. Where it is helpful, and it often is, I use the etymology of the Chinese character to help students grasp the image of each particular pulse.

Secondly, it presents a step-by-step system of teaching these clearly differentiated pulse images, such that the basics of pulse reading are immediately manageable and the complexities are built up systematically. It helps us to ask ourselves useful questions in order to focus our minds on what can be felt on the pulse, and as a consequence of this, it enables us to develop our technical sensitivity to the pulse and to name what we feel in such a way that we can understand each other.

The Three Step System has undergone many modifications and refinements through practical exposure to students over several years, and has now crystalised into the Three Steps described below. It has been so popular with students that extra pulse days have been held at LCTA, and it is now being integrated across the curriculum.

The Three Steps are:

- **Step One:** The Four Basics [speed, regularity, depth, force]
- **Step Two:** The Three Quality Types [length, width, flow. These define the quality]
- **Step Three:** The Combined Deep and Floating Pulses [combining depth, force, width and quality].

Step One: The Four Basics

Step One of the Three Step System of Pulse Reading is the Four Basics. These are speed, regularity, depth and force. Depth and force connect to two of the parameters of the healthy pulse: that it should have root (*you gen* 有 根), and should have spirit (*you shen* 有 神). Having root means that the *chi* (cubit) position is not floating, i.e. can be felt all the way down to the deep level, while having spirit means that the pulse has sufficient force.

The pulses delineated in diagram 1 can be differentiated simply from applying Step One.

The principle tenet of the Four Basics is that each Basic is independent of the others. Thus a pulse will always have a speed, a regularity, a depth and a force. These may combine in any way. For example, it is quite common for a pulse to be deep and forceless, but it is equally possible for it to be deep and forceful. A forceful pulse may have normal depth, but it may also be floating. The art of the Four Basics is to ask oneself how the pulse is in each of these four respects, otherwise it is easy to jump to the conclusion that a deep pulse is also forceless, or that a forceful pulse is also rooted (not floating).

Speed

Speed is the least subjective parameter as it can be measured against the clock. One interesting pulse in this section, and the one that is often forgotten, is the *huan* 緩 moderate or relaxed pulse. This is a pulse that beats at around 60 beats/minute, and as such is slightly slow. It can be an indicator of either a normal pulse, or of *qi* stagnation and deficiency (Yang 1997:275, 294) possibly coming from heart *qi xu*, since the heart has not quite the strength to beat as fast as it could (Flaws 1995:55). In the latter case it normally indicates heart failing to govern the blood in combination with spleen *qi xu* and dampness, with damp obstructing the flow of the pulse (Flaws 1995:55, Hyunh 1981:110).

The picture of this pulse is quite beautiful and reflects its interpretation as a normal pulse. On the left is the radical for silk 糸, while on the right are two hands with a pair of scales between them (Wieger 1965:lessons 49 & 92). This balancing of the two hands with the silk is reminiscent of the *tai ji* concept of moving with the sensation of a thread of silk between the hands, reflecting moderation or balance.

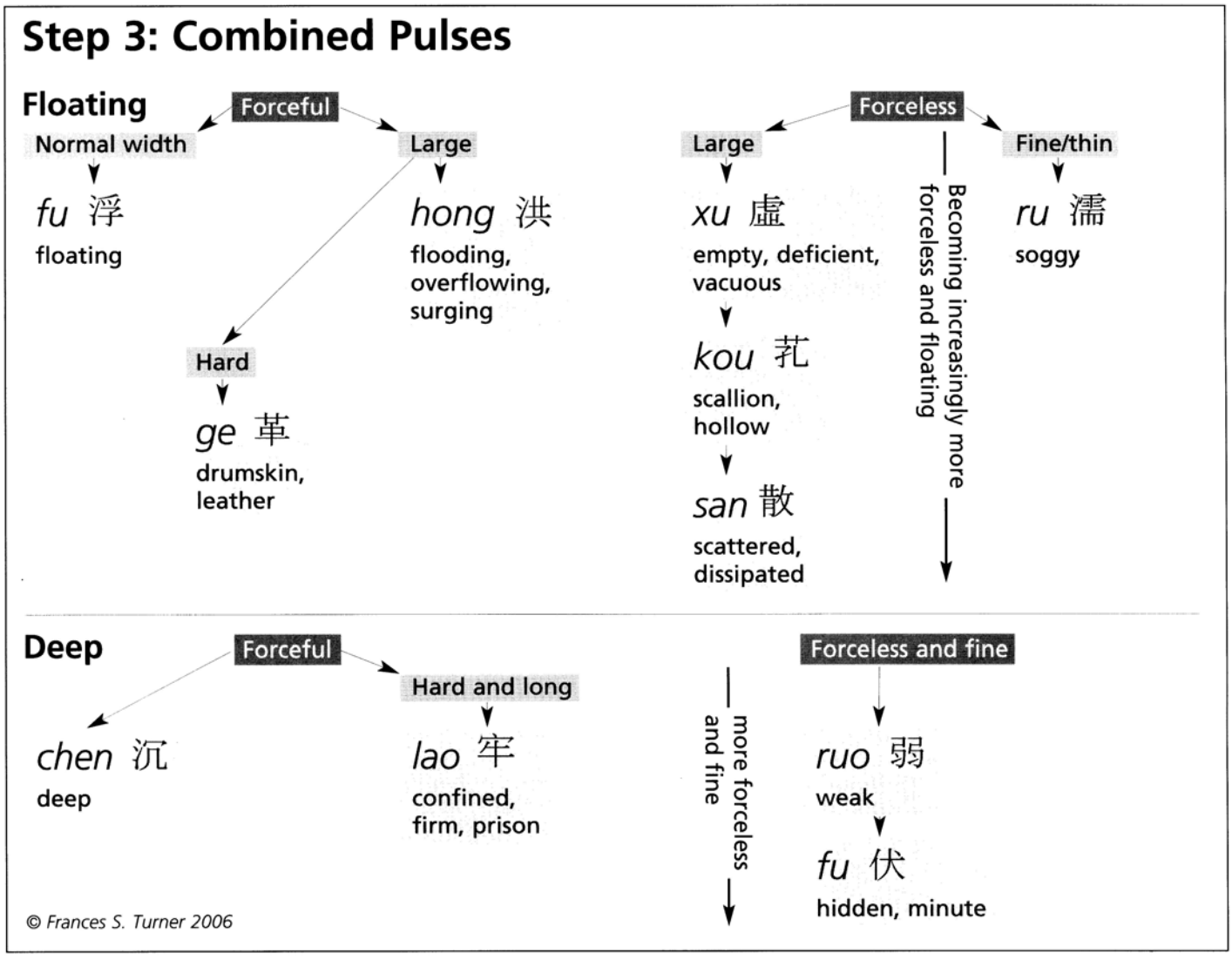

Diagram 3: The combined floating and deep pulses.

Finally it is worth making a brief comparison of the three pulses that are so extremely forceless they may be difficult to palpate. The difference between the *fu* 伏 hidden, *san* 散 scattered and *wei* 微 faint/minute pulses concern their depth. The *san* 散 scattered pulse is very forceless and so floating that it disappears on the slightest pressure, the *fu* 伏 hidden pulse is so forceless, so fine and so deep as to be barely palpable, while the *wei* 微 faint/minute pulse is so extremely fine and forceless that although it can with care be palpated at all depths, it may easily seem to disappear.

Conclusion

Although it can be hard for us to get our heads around the 28+ pulses of Chinese medicine, if we do it in a systematic way, building it up step by step, it is not as complicated as it might at first seem. Success in taking the pulse often depends on asking oneself questions systematically and listening to the answers on the pulse. In this respect, the Three Step System gives us a framework that allows us to avoid missing out on feeling important pulse information.

In practice I have found that it is particularly tempting for a student to skip Step One (the Four Basics), and immediately jump to a conclusion about the pulse quality – slippery, wiry etc. What tends to happen in this case is that a student will typically miss whether the pulse is deep or floating (floating is the most commonly missed), and consequently all the pulses of Step Three will be immediately dismissed. It is also common for a student to miss irregularity and choppiness unless it is specifically listened for.

Pulse Quality	Length	Width	Flow	Force
Slippery/rolling (*hua* 滑)	Not long or short	Wide	Flowing	Usually quite forceful but can be forceless
Choppy/rough/hesitant (*se* 濇)	Not long or short	Narrow. A choppy pulse is defined as fine/thin/thready	Not flowing in either rhythm (3s and 5s) or force	Forceless
Tight (*jin* 緊)	Long	Wide	Not flowing in the sense of being tight	Forceful
Wiry/bowstring (*xian* 弦)	Long	Narrower than tight, like a wire or the string of a bow	Not flowing in the sense of being like a taut string	Forceful (usually)
Fine/thin/thready (*xi* 細)	Not long or short	Narrow like a thread	Not flowing in the sense of being narrow	Forceless
Faint/minute (*wei* 微)	Not long or short	Very narrow like a very fine thread	Not flowing in the sense of almost not being there at all	Very forceless and hard to keep contact with
Full/excess/replete (*shi* 實)	Long	Wiry and wide	Not flowing in the sense of being wiry or hard	Forceful
Stirred up/moving/spinning bean (*dong* 動)	Short	Slippery (wide)	Not flowing in the sense of vibrating or shaking	Forceful and rapid

Table 1: Summary of pulse qualities

severity of this pulse; if it is very forceless, very deep and very fine, it then becomes the *fu* 伏 hidden pulse[3].

There are no other specific pulse images for deep pulses, so if the pulse is, for example, deep and slippery, both words would need to be used. It is interesting that in my experience at the Hospital for Traditional Medicine in Hangzhou, China[4], the doctors diagnosed deep pulses as fine where we as westerners would all have said slippery. I was interested both in the degree of agreement between the western students, and in the consistency with which the Chinese doctors seemed to diagnose any deep pulse as fine.

Floating Combined Pulses

In differentiating the seven floating pulses, the first differentiation is again between forceful and forceless, and the second between wide and narrow. Thus the pulse which is floating, forceful and of normal width is the *fu* 浮 floating/superficial pulse. There are two floating, forceful and wide pulses. The first is also hard, and this is the *ge* 革 drumskin/leather pulse. The *Mai Jing* refers to this pulse as a modulated wiry pulse; a combination of the wiry (*xian* 弦) with the scallion-stalk (*kou* 芤) pulses. The wiriness indicates cold and the scallion deficiency. When deficiency and cold act on one another the drumskin pulse arises. It indicates blood loss, for example, miscarriage or dribbling uterine bleeding (Yang 1997:279, 300, 343).

The other wide floating forceful pulse is the *hong* 洪 overflowing/flooding/surging pulse, which indicates exuberant heat causing the pulse to overflow. Exuberant heat may also damage *yin*. The character literally means a flood (the water radical is on the left) (Wieger 1965:lessons 24 & 47). The surging pulse is also normal for the heart in summer (Yang 1997:69).

With the forceless floating pulses, the width is also an important differentiator. If the pulse is fine, forceless and floating it is the pulse with two names, either *ru* 濡 (soggy) or *ruan* 耎 (soft). This indicates *qi* and blood *xu* (vacuity/deficiency/emptiness) with dampness. The *ru* 濡 (soggy) pulse is a great image of dampness. On the left of this character is the water radical, while the right shows the rain (above) on the plants (below) (Wieger 1965:lessons 12, 125, 164). Wang Shu-he describes it in the *Mai Jing* as feeling 'like the clothes in water which are reachable only to a gentle hand' (Yang 1997:4), and associates this feeling also with deep pulses.

If it is of normal width, there are three degrees of severity to a floating and forceless pulse, each of which has its own name. The least severe is the *xu* 虛 empty/deficient/vacuous pulse, which is less forceful below than above but may not disappear completely on pressure. It is described in the *Mai Jing* (*Pulse Classic*) (Yang 1997:4) as slow, large, limp and impotent when pressure is applied, with a wide hollowness. The *kou* 芤 scallion stalk/hollow pulse distinctly disappears as the palpating finger presses down, moving to the side rather like a piece of wood bobbing on water. The *Mai Jing* (Yang 1997:3) clearly describes it as empty in the middle but solid at the sides, or absent directly under the fingers but present at the sides. The character means a spring onion or scallion, and shows the nests swallows make in holes in houses (by extension meaning hollow), below the radical for grass or plant (Wieger 1965:lessons 78 & 94).

The *san* 散 scattered pulse is so forceless and floating that the slightest touch will cause it to disappear. It indicates loss of *yin* and blood so severe that the *qi* is also on the point of desertion (Flaws 1995:55-6).

However, there is a sense in which an individual pulse can also be short (Kaptchuk 1983:313, Maciocia 2004:481). Maciocia interprets this idea of no head nor tail differently, defining the short pulse as not filling a position, and more commonly felt in the *cun* and *guan* than in the *chi* position. In the *Mai Jing*, the *cun* and *chi* positions have specific correct lengths, and can both be diagnosed too long or too short (Yang 1997:9), and there is frequent reference throughout the text to an individual pulse being small.

Width

Width defines the pulse in a medial-lateral direction. As mentioned above, this definition is not a pair but a sliding scale from wide/large to extremely narrow. Large or wide (*da* 大) is a pulse quality that is not traditionally defined as one of the 28 pulses, but which I include because it is a defining component of some of the combined floating and deep pulses. Although the slippery/rolling (*hua* 滑) pulse is primarily defined by its smooth flow, it is also defined as wide, and this definition is particularly useful in the context of slippery as a diseased pulse.

The four pulses that are defined primarily by their width are tight (*jin* 緊), wiry/bowstring (*xian* 弦), fine/thin/thready (*xi* 細) and faint/minute (*wei* 微). In this sequence the *jin* 緊 pulse is the widest, the *xian* 弦 pulse is a bit narrower, the *xi* 細 pulse is narrow, and the *wei* 微 pulse is so narrow it is hardly palpable. These pulses also become increasingly more forceless as they become more narrow. While three of these four pulses contain the radical for silk, meaning thread 糸, implying that a primary characteristic is their threadlike nature or width, the fourth, the *wei* 微 pulse, contains the character for threshing grain, showing that the fibres of the plant have been so threshed that they are as fine and slender as they can get, so slender in fact as to be barely palpable (Wieger 1965:lesson 164).

Interestingly, in the *Mai Jing*, the wiry (*xian* 弦) pulse is classified as a *yin* pulse (Yang 1997:16) and often also described as fine/thin (*xi* 細). The normal liver pulse, for example, is described as wiry, fine and long (Yang 1997:64). Furthermore, while the initial descriptions of the fine and faint pulse tally with the above, in the body of the text faint is much more commonly used as a diseased pulse descriptor than fine.

Flow

The pulse that is primarily defined as having good flow is the slippery/rolling (*hua* 滑) pulse. This pulse has two definitions. Firstly it is the healthy pulse: a healthy pulse is defined as having stomach, i.e. a smooth and lubricated flow, and in this case a slippery pulse just has a nice flow and a nice width to it. But it can also in some contexts be defined as an unhealthy pulse, in which case in my experience it becomes distinctly wide/large. The radical for water 氵, delineating flow, together with the character for bones (Wieger 1965:lesson 118), shows how the slippery pulse flows smoothly like water flowing over smooth bones (a picture reminiscent of the classical description of pearls rolling in a bowl).

The pulse defined as lacking in flow, sometimes called hesitant but more often called rough or choppy is very easily diagnosed once identified. The choppy (*se* 澀) pulse has an irregularity of rhythm or flow that is edgy or rough. It slightly speeds up and slows down, and is sometimes called the threes and fives pulse. It can also be irregular in terms of force, some beats hitting the finger harder than others.

There are some nice metaphors for this pulse. The normal one is that it is kind of scratchy and rough, like a knife scraping bamboo. This metaphor is contained in the character itself, which shows two knives with a sharp edge above two characters for stopping and starting, and means uneven or rough (Wieger 1965:lesson 112). With the addition of the water radical, one explanation is that a water droplet drops down onto the sharp edge of the knife (the sharp edge delineated by the dot on the knife blade) and is scattered. Another analogy, from the *Bin Hu Mai Xue* (Bin Hu's study of the pulse) is that of a sick silkworm. Apparently a sick silkworm leaves an irregular pattern around the edge of a leaf it is eating, while a healthy one will leave a smooth edge (Wiseman and Feng 1998:509).

To sum up, there are six main pulse qualities that are defined by the Three Quality Types: slippery (*hua* 滑), choppy (*se* 澀), tight (*jin* 緊), wiry (*xian* 弦), fine (*xi* 細) and faint (*wei* 微). Each quality has particular characteristics of long or short, wide or narrow and flowing or not flowing, but will be primarily described by width or flow. In addition, each quality has a particular association with force. A further two qualities are defined by their length and quality. The full (*shi* 實) pulse in its specific sense is long and wiry, while the spinning bean/stirred up (*dong* 動) pulse is short, slippery, forceful and rapid.

The characteristics of these pulse qualities are summed up in the table on page 17.

Step Three: The Combined Floating and Deep Pulses

The combined pulses are the different varieties of deep and floating pulses. There are four varieties of deep pulse and seven of floating pulse. These pulses are made up of a combination of the Four Basics with the Three Quality Types. Specific pulses are created by the combination of a particular depth with a particular force and a particular width. Sometimes different names are given to pulses that are essentially the same but differ in severity.

Deep Combined Pulses

The first differentiation for a deep pulse is whether it is forceful or forceless. If it is forceful and deep it is simply the deep *chen* 沉 pulse. If it also has a quality of long and wiry or hard it is the *lao* 牢 confined/firm/prison pulse. This pulse is said to feel as if it is tied to the bone. The forceless deep pulses can be further differentiated by width. If a deep forceless pulse is fine/thin/thready (*xi* 細), it is the *ruo* 弱 weak pulse. There are two degrees of

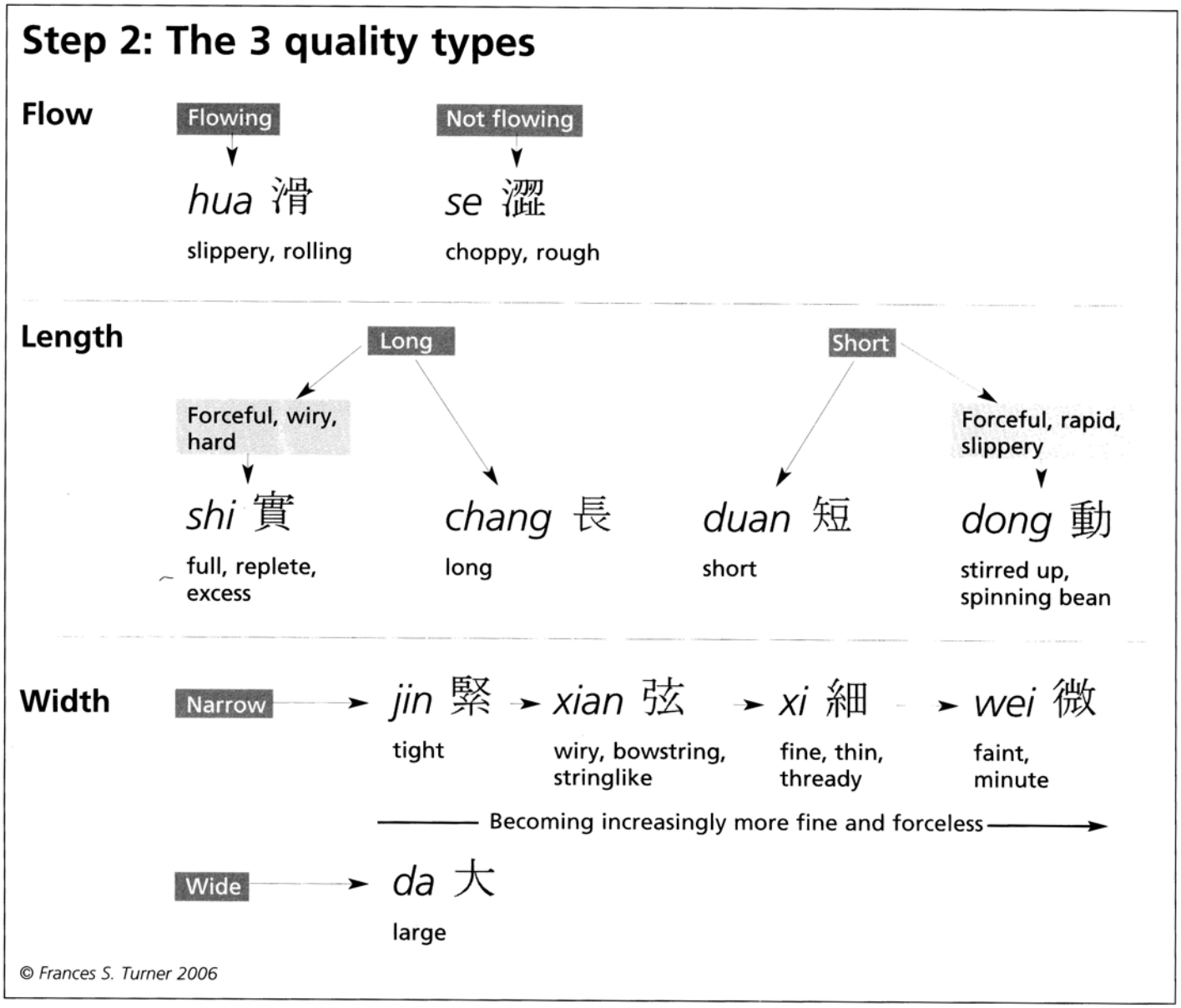

Diagram 2: The Three Quality Types

In terms of pulse qualities, the wiry/bowstring (*xian* 弦) pulse is normally defined as being long, as is the *shi* 實 full pulse which is also defined as forceful, wiry and wide. Here we have a contradiction between wide and wiry, in that a wiry pulse is not usually particularly wide. Flaws (1995) resolves the contradiction between wiry and wide by calling this pulse hard, and defines this hardness as a wide pulse that has a tautness that is like a wiry pulse.

In the same way, the short pulse has two interpretations. In the overall sense it means that the pulse is not felt as far up as the *cun* position, as if the circulation is unable to take the pulse that far out to the extremity (Flaws 1995:34, 54). If no *cun* position is felt, care should be taken to check for a deviated pulse, since it may be possible to feel the *cun* position on the radial aspect of the arm. Alternatively it is described as a pulse felt only at the *guan* (bar 關) position (Kaptchuk 1983:165, Wiseman and Feng 1998:530),

The *dong* 動 stirred up/spinning bean is an example of an extraordinary short pulse and is described in the *Mai Jing* as only felt in the *guan* position, with no ends in the upper or lower position, i.e. no *cun* or *chi* (Yang 1997:5). It is rapid, forceful and slippery as well as short, has a quality of vibrating (Qian 1985), and indicates severe emotional shock (Maciocia 2004:490-1). *Qin Bo-wei* (Qin 1994) describes this pulse as having no head nor tail, which Flaws (1995) interprets as meaning does not extend to the *cun* nor *chi* positions.

pressure, and it may not completely disappear as it is pressed down, although in my experience it normally will become distinctly less forceful. This diminution of force on pressure of the floating pulse is clearly expressed in the *Mai Jing* (*Pulse Classic*):

> 'The floating pulse is a pulse potent when felt with no pressure applied, but impotent when felt with pressure applied.' (Yang 1997:3)

In feeling for a floating pulse it is important to feel each pulse position (*cun* 寸, *guan* 關 and *chi* 尺) separately by lifting off the other fingers. This is because when a pulse floats, the palpating pressure can cause it to shift from under the tip of the finger to the sides of the finger. This type of floating is typical of the scallion-stalk/hollow (*kou* 芤) pulse:

> 'The scallion-stalk pulse is a floating pulse, large but soft. It is empty in the middle but solid at the sides when pressure is applied.' (Yang 1997:3)

Lifting off the other fingers helps us to focus on the tip of one finger, and to notice if this position shift occurs. If the other fingers are not lifted, this shift can easily be missed. A deep pulse can often be felt when palpating the whole pulse with all three fingers, although it is also more easily noticed when the individual positions are checked separately.

There are four types of deep and seven types of floating pulse, and it is these pulses that make up the Combined Deep and Floating Pulses defined in Step Three. In Step One it is enough to make a general diagnosis of deep or floating and to leave further differentiations for later.

Force

Force is arguably the most subjective aspect of the Four Basics. While a pulse can objectively be said to have a certain speed, regularity and depth, a sense of what is forceful and what is forceless is dependent on direct experiential teaching, and it is impossible to define that in words. Force is also one of the pulse parameters that is relative. The force of pulse that is normal and healthy for a patient can vary according to body type and weight, thus a small woman might have a pulse with normal force, but if that same pulse were felt on a strong young man it might be diagnosed as forceless. It can also reflect the patient's constitution, thus a person may have a generally forceless pulse that for them is healthy. If the practitioner works with this, they can diagnose a change in the force that might indicate a pathology.

As indicated above, force is an area of confusion of terminology, and I would recommend that the terms forceless (*wu li* 无力), weak (*ruo* 弱) and empty (*xu* 虛) are used very carefully in their specific senses:

- **forceless:** any pulse that lacks force
- **weak:** a combined pulse meaning deep, fine and forceless (see Step Three)
- **empty:** a combined pulse meaning floating, large/wide and forceless (see Step Three).

Step Two: The Three Quality Types

The three quality types are length, width and flow. These three parameters of length, width and flow can be usefully used to differentiate the major pulse qualities slippery (*hua* 滑), choppy (*se* 澀), tight (*jin* 緊), wiry/bowstring (*xian* 弦), fine/thin/thready (*xi* 細) and faint/minute (*wei* 微), and also to understand the full (*shi* 實) and the stirred up/spinning bean (*dong* 動) pulses. These qualities are represented in terms of the Three Quality Types in diagram 2 on page 14.

As can be seen from the diagram on page 14, unlike the Four Basics, the Three Quality Types are not all simple pairs: width is a relative scale ranging from the widest pulse to the narrowest. Furthermore, although an individual pulse quality may have characteristics of all Three Quality Types, i.e. it will have a flow, a width and a length, it may be primarily defined by one of these Quality Types over and above the others.

For example, although the slippery (*hua* 滑) pulse is defined as wide/large in terms of width, its primary definition is that it has flow. A fine/thin/thready (*xi* 細) pulse may not have flow by virtue of its fineness and because it is not slippery, but its true distinguishing feature is its narrowness. A choppy (*se* 澀) pulse is defined by its flow, or rather its lack of flow, even though it too is defined as fine in terms of width. These prioritisations can be seen in the etymology of the characters, in that the pulses defined by their width tend to contain the radical for silk (*mi* 糸), while those defined by their flow contain the radical for water (*shui* 氵).

Length

Length is in a sense the simplest quality type to distinguish. It defines the length of the pulse in a distal-proximal direction. The long pulse has two definitions. Firstly a pulse can be long overall. This means that the whole pulse can be felt proximal to the *chi* 尺 (cubit) position. In this case it is likely that all three positions will be felt distinctly as part of a long joined line, and that this line extends proximally, and also possibly distally, further than is normal.

However, an individual pulse position can also be long. This means that when feeling an individual position with one finger, the pulse seems to extend beyond the palpating finger distally and proximally a little bit. This is typically found on the liver pulse as an indication of some liver *qi* stagnation. It is also possible for two positions to be long and to have that feeling of being joined up, but without the length extending to the third. I have typically felt this type of long on the *guan* 關 and *chi* 尺 positions on the left-hand pulse.

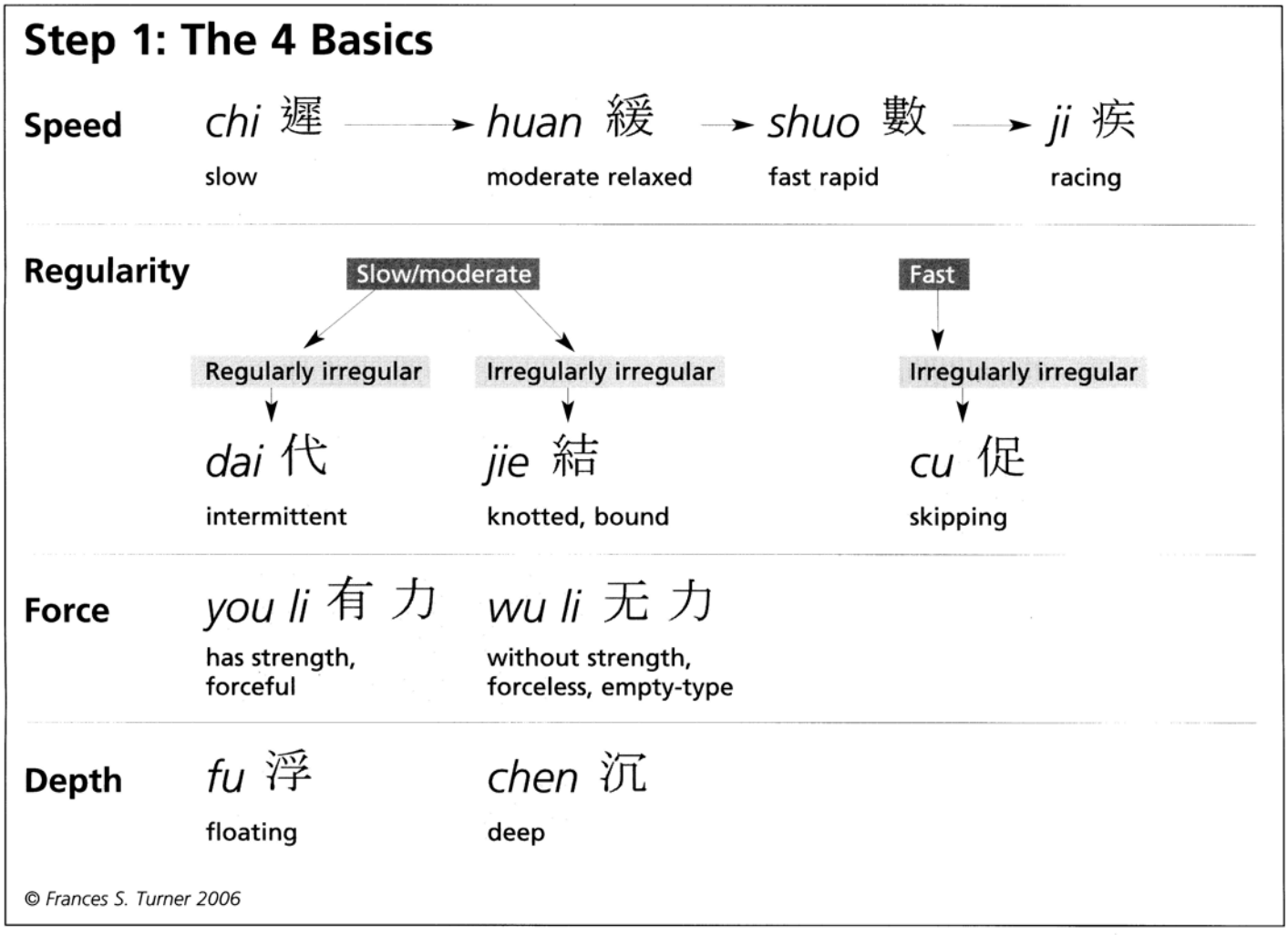

Diagram 1: The Four Basics

Regularity

The main confusion with regularity is that the *se* 澀 (choppy/rough/hesitant) pulse is not defined as irregular within the 28 pulses. The slight slowing down and speeding up of this pulse is seen as a hesitancy of flow, and is therefore a quality (see Step Two: Three Quality Types). Irregular pulses actually skip beats, thus of the slow or moderate irregular pulses, the *jie* 結 (knotted/bound) pulse skips beats rarely, at irregular intervals, indicating stagnation (of blood, *qi* or fluids) with deficiency (Flaws 1995:72, Hyunh 1981:111, Yang 1997:92, 218). The *dai* 代 (intermittent) skips more often, at regular intervals and typically for longer than a beat, normally indicating serious heart disease or imminent death (Yang 1997:142). The *cu* 促 (skipping/hasty) pulse skips beats at irregular intervals but is also extremely rapid and associated with full heat causing stagnation (Hyunh 1981:113).

Depth

Depth is a parameter that needs careful definition. A deep (*chen* 沉) pulse is defined as a pulse that cannot be felt until the pulse is pressed two thirds of the way down to the bone. A floating/ superficial (*fu* 浮) pulse is defined as a pulse that can be felt on the surface, but that disappears or becomes less forceful as the palpating finger presses down towards the bone. It should be noted that it is normal for the *cun* positions to float slightly, since they are the pulses at the top of the body. The normal heart pulse, for example, is defined in the *Mai Jing* as surging/flooding, especially in summer (Yang 1997:69, 129). Equally it is normal for the *chi* positions to be slightly deep.

The first problem here is that floating and superficial mean exactly the same thing and are both translations of *fu* 浮. The second problem is that *fu* 浮 floating/superficial has both a general and a specific definition. In its general sense, it means any pulse that is floating. In its specific sense, it means a pulse that is floating and forceful; the typical pulse of an exterior invasion. In this case the pulse may be felt very easily on the surface with only slight

As we gain facility with pulse taking, our developing expertise brings increasing speed and confidence. Such facility in action can give the illusion of instant pulse diagnosis of the kind that we all find impressive to watch. However, this is simply the expertise derived from long practice, and I would contend that we can all become expert in diagnosis according to the 28+ pulses if we practise systematically.

Learning pulse diagnosis depends both on practice and on consistent feedback from teachers. Frances Turner, along with Jamie Hedger, runs regular workshops at LCTA on pulse diagnosis using the Three Step System of Pulse Reading. She is also producing a CD detailing the Three Step System, and including full colour illustrations of the Chinese characters that make up the pulse images (as shown above). For further information about both CD and workshops please go to www.francesturner.org

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1 British Acupuncture Council Conference, September 2006, Cirencester.

2 London College of Traditional Acupuncture and Oriental Medicine.

3 Note: this pulse is an entirely different Chinese character from the *fu* 浮 floating pulse but has the same *pinyin* transliteration.

4 Chinese medicine study trip, Summer 2006.

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