Final CALL FOR PAPERS

News Release

“Those Who Cannot Remember The Past Are Condemned To Repeat It”
----------------George Santayana

The Journal of New Mathematics & Natural Computing, published by WSPC, ISSN:1793-0057 [print] and ISSN:1793-7027 [electronic], is pleased to announce a CFP, Call For Papers, on the topic entitled:


More than half a century of intensive research on artificial intelligence (AI) has concluded that the problem of linguistics must be solved before we can make any progress in truly intelligent systems, AI research today has been forced to reduce merely to deal with some basic issues such as the data mining and web semantics. Chinese language must take the advantage of what we have already learned from that of English language so far as the CWW (Computing With Words) is concerned, especially the implications of those fundamental theory of Noam Chomsky & Claude Shannon introduced in the 1950s. We claim the CWW issue of Scientific Chinese language, in reality, is the foundation of a much larger problem of Scientific Chinese Civilization. The enclosed write-up by Zhaohao Sun and Paul P. Wang provides much needed background, motivation and, at least, our version of the definition of the Grand Challenge.

This Special Issue (SI) has been quite loosely defined because we need all participants to contribute in even the very basic definitions. One thing we are certain of is the importance and the urging nature of the issue. Even though there are no lack of efforts in terms of the interested scholars and their associations. Frankly, we feel, overall speaking, the lack of urgency and lay back attitude have prevented them from significant gains over all these years.

As pointed out by Sun and Wang, numerous reforms of the Chinese Language have led to good results. The painful evolutionary history of the Chinese language, nevertheless, made it clear the need of some dramatically reform, especially the computer and information revolution are here to stay and we must have some strategy for the development which begins with Scientific Chinese Words reform for the benefit of future generations.

There are estimated to have 1.4 billion people who use Chinese language, a 10,000 specialists research Institute would consume only 0.00071428% of the total human resource! Yet the benefit and the impact derived from this Institute can be really huge! Therefore, this CFP is very much a document of an urge, a pleading, nearly a manifesto!

In addition to the 26 items outlined in Sun and Wang's write-up, you may suggest the favorable topics you think are important, such as some suggested items listed as follows:

27. Historical evolution of a long surviving language and how to reform for future need.

28. How a 1,000 specialists research Institute can be funded.
29. How can such a Grand Challenge be entirely free from political complication?

30. A comparative study on the benefit of this Grand Challenge.

Note: You are encouraged to visit our website where you can download the template: http://www.worldscinet.com/style_files/nmnc/202-readme_2e.shtml

Milestones
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November 30, 2010  Letter of the intention, including a few lines of abstract.
February 28, 2011  First draft submission [no more than 30 pages]
April 30, 2011     Notification of acceptance/revision/rejection
July 30, 2011      Final paper due
October 31, 2011   Publication production

Inquiry & Submission
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Scientific Chinese Words, Language and Culture: A Computing Perspective

Zhaohao Sun, Paul P. Wang

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1 Scientific Chinese Civilization

In contrast with the rapid development of Chinese economy at an almost overwhelming speed, and its salient influence on the economy and civilization of the world, we have many reasons to say that Chinese words, language and culture are in crisis or in danger, because there are not a revolutionary change nor scientific reform in Chinese words, language and culture at least from the Qin Dynasty with the change of social and economic development. The re-emergence of Confucianism introduced in 400 BC is an example. Our endeavour is to examine Chinese words, Chinese language, and Chinese culture using Scientific Chinese words, scientific Chinese language and scientific Chinese culture as our motivation.

Scientific Chinese words, scientific Chinese language and scientific Chinese culture form the trinity of scientific Chinese civilization. These three are closely related to modernization of Chinese society, economy and formation of knowledge economy and knowledge society in China in special in Chinese-spoken communities in the world in general. Chinese words and Chinese language are the carrier of Chinese information, knowledge and Chinese culture. They are also an important component of Chinese culture (Song et al, 2009)

Scientific Chinese words, scientific Chinese language and scientific Chinese culture are at three different levels in hierarchy. Scientific Chinese words are at a fundamental level. Scientific Chinese language is at the intermediary level, and scientific Chinese culture is at a top level. Chinese words play a pivotal role in making Chinese civilization continuing without interruption in the civilization history of human being. “Scientific” in our research means that the understanding of and investigation into either Chinese words or Chinese language or Chinese culture using all modern science and technology, especially computing science and technology. Computing is a modern science and technology moving us from traditional civilization to web civilization.

Chinese information processing (CIP) and Chinese character information processing (CCIP) have dominated Chinese scholars’ research in the past 60 years (Song et al, 2009). However, these are
only a part of our trinity, because CIP and CCIP can only be at technical level serving the above-mentioned trinity, although they are indispensable (see Section 2). This reflects a commonsense: We do not appreciate the essence of the forest, only because we are in the forest. Obviously, CIP and CCIP have no intention of extending Chinese character information and Chinese information beyond “processing” to more general layer, e.g. “computing” or the top layer, scientific. This is the critical weakness of CIP and CCIP. We select a computing perspective, because we are computing scientists. Further computing is a revolutionary paradigm that likes an engine to move the science and technology as well society towards the more brilliant future of human being.

We use the trinity formed by scientific Chinese words, scientific Chinese language, and scientific Chinese culture to re-examine, explore and develop Chinese words, Chinese language and Chinese culture to facilitate the development of scientific Chinese civilization and to promote the emergence of a new generation of scientific Chinese.

The authors have Googled “Scientific Chinese Culture”, “Scientific Chinese Language”, “Scientific Chinese Words”. Either of them has no webpage googled in the Google world. We have also Googled “Computing of Chinese Culture”, “Computing of Chinese Language”, “Computing of Chinese Words”. Either of them has no webpage googled in the Google world- 120610. This is the reason why our ideas are breakthrough or innovative.

2 Scientific Chinese words

Chinese words (characters, hanzi) are one of the oldest words in history (Hong, 2010). Chinese words are the blood and soul of Chinese language and Chinese culture. From a computing perspective, scientific Chinese words can be narrowed to “the computing of Chinese words”, in which there is a research direction: computing with Chinese words, motivated by computing with words (Wang, 2001). However, computing here is at the most general level, same as computing as a discipline. More specifically, scientific Chinese words at least consists of

1. Technologies of Chinese words,
2. Engineering of Chinese words,
3. Management of Chinese words,
4. Systems of Chinese words,
5. Reasoning of Chinese words: Reasoning with Chinese words (two meanings: 1. Chinese words possess fuzziness, 2. Chinese problem solving or commonsense are based on words (clauses)
6. Semantic net of Chinese words,
7. Ontology of Chinese words,
8. Standards (Notations) of Chinese words (Some of these have been done by Chinese Government),
9. Reform of Chinese words: Three core tasks: Simplification, pinyin and putonghua to promote the Chinese language and culture (Song et al, 2009),
10. Processing of Chinese words is interchangeably with Chinese information processing or Chinese Character information processing (Song et al, 2009), or Chinese Character information processing.

The key ideas behind scientific Chinese words are that modernisation of Chinese culture. We consider it as scientific Chinese language and scientific Chinese culture, relying on modernisation of Chinese words, the latter depends on the computing of Chinese words at least from a computing perspective. In fact, the similar topics are suitable to Chinese language and Chinese culture.

2.1 Brief History of Chinese Words
Chinese words have a few thousand years (4000-5000 years old) of history since its inception of Xiang form words (Song et al, 2009; Hong, 2010), because it has formed a word system in 14th century B.C. in the Xia Dynasty (Hong, 2010) with one word representing a symbol. Qing Dynasty (BC 221-206) unified and standardized Chinese words. Normalization, lineation (Xiàntiào huà), and simplification dominate the evolution of Chinese words since the Qin Dynasty (BC 221-206) by simplifying and normalizing Da Zhuan through Jiagu words to Xiao Zhuan words and then Lishu words, which are still used for study in primary schools in China. Lisu was further simplified into Kaishu in Tang Dynasty and Song Dynasty, which is still an important kind of Chinese word system. With the development of printing technology in Song Dynasty (AD 960-1279), the printable Chinese words as a notation was formed and named as Song Ti, which is still dominating the printable Chinese words in publications and all the media in China.

Na (2009) believes that Chinese words have feelings, colors and smells. They are not only magic but also interesting. They have long history and meaningful culture. Every word has a story, every one has eyes. They watch reappear and imitate the world. Every word has big ears, they listen, accept, and record the world. Chinese words have firm teeth and mouth they are telling us many beautiful and old stories.

As mentioned early, Qin Dynasty unified the Chinese words and simplified the Chinese words. This is a revolutionary action, which makes the Chinese words into ordinary people, that is, an ordinary Chinese can read, know, recognize and use Chinese words. The Chinese language and culture based on Chinese words begin to form and develop.

In the modern history, May 4 Movements in 1919 is an important event for Chinese words, Chinese language, and Chinese culture. That movement promoted the simplified Chinese culture (as well as Pinyin of Chinese words). Baihuawen is a secondary consequence of that movement. The mission of simplified Chinese words serves the absolute majority of ordinary Chinese rather than elite or intellectuals to know, read, recognize and use Chinese words, language and culture. Therefore, simplified Chinese words, as a movement, are a thorough progress after 1949 taking into account that the majority of Chinese were illiterate at that time.

2.2 Creation of Chinese New Words

Comparing with English words, Chinese words are relatively closed and stable from a system viewpoint, because the vocabulary has basically not changed and added in the past 1000 years since Song Dynasty. However, how to create a Chinese new word? What is the fundamental for creating a Chinese word? are important issues from a computing viewpoint. Further, the emperor of Tang Dynasty, Wu Zetian, created a new Chinese word. Can we create a Chinese word? What principles we should adhere to is also a big issue. – 240510.

3 Scientific Chinese Language

From a computing perspective, we can narrow our topic to: The Computing of Chinese Language. For a foreigner who studies Chinese language for a whole. Communication in Chinese is normally not a big issue. However, the big issue is scientific Chinese language, or the computing of Chinese language from a computing perspective. The following topics are recommended, by not limited to.

11. Technologies of Chinese Language,
12. Engineering of Chinese Language,
13. Management of Chinese Language,
14. Systems of Chinese Language,
15. Reasoning of Chinese Language, Reasoning in Chinese Language,
16. Semantic net of Chinese Language,
17. Natural knowledge discovery and knowledge mining in Chinese (e.g. Qinghua (Tsinghua) University, and Beijing University, Chinese LDL),
18. Computing with Chinese (like with natural language),
19. Machine translation between Chinese and other languages,
21. Processing of Chinese Language: Chinese language information processing, which is used in China officially (Song, 2009).

4 Scientific Chinese Culture: The Computing of Chinese Culture
The Chinese culture exists as a comprehensive abstraction from Chinese history, education, and superstructure etc. Because of long history (more than 2000 years) of feudalism in China, there are relatively less scientific components in Chinese culture. Therefore, using scientific (engineering) methods, technologies, and tools to reform Chinese culture become a critical issue for developing scientific Chinese civilization. The following topics are recommended, by not limited to.

22. Technologies of Chinese culture,
23. Engineering of Chinese culture,
24. Management of Chinese culture,
25. Systems of Chinese culture,

At the moment, we focus on scientific Chinese words and scientific Chinese language, because culture is a very controversial topic, it is also a more general topic. However, we must clarify the relationships among scientific Chinese words, scientific Chinese language and scientific Chinese culture. In fact, the modern history of Chinese culture is based on the simplification and standardization of Chinese words from 1949 on (Song et al 2009). This evolution or revolution benefits the improvement of cultured Chinese (from illiterate to literate).

5 References
[7]. History of Chinese Words
http://www.hudong.com/wiki/%E4%B8%AD%E5%9B%BD%E6%96%87%E5%AD%97%E5%8F%B2, on 240510
[8]. Evolution of Chinese Words