The World Within Us
(Or A Sketch of Consciousness Space Beyond Freudian Mental Model and Implications to Socio-Economics Modeling and Integrative Cancer Therapy)

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Abstract
In this paper, we give an outline of an ongoing study to go beyond Freudian mental archetypal model. First, we discuss the essence of numerous problems that we suffer in our sophisticated and modernized society. Then we discuss possibility to reintroduce spirit into human consciousness. While we are aware that much remain to be done and we admit that this is only a sketch, we hope that this paper will start a fresh approach of research towards more realistic nonlinear consciousness model with wide ranging implications to socio-economic modeling and also integrative cancer therapy. At the last section we also shortly outline plausible method to vindicate our proposed boson-fermion model of human society in a physical experiment.

Introduction
One of us (FS) recently published a new book, with title: Neutropsychic personality [1]. In this book, FS described possible extension of Freudian mental model: id-ego-superego, using his Neutrosophic Logic theory. He goes on to develop implications of this approach.

Later on, we thought that it would be necessary to push the boundary one step further, by considering a more realistic way to go beyond that classic Freudian mental model, i.e. by reintroducing the spirit into human consciousness model.

We are aware that many researchers have proposed such an extension, especially Italian tradition which was continually developed by students of Carl Jung, such as Assagioli and Pierre Ferrucci, namely the Psychosynthesis movement. See for example [2].

But here we offer a different starting point of mental model, based on Matthew 22, i.e. The Great Commandments. As far as we know, i.e. this is the simplest model of human consciousness, yet it is profoundly inspired by the Bible.

This author adopts a rather relaxed approach to present their ideas, with the hope to stimulate both sides of your brain, in order you can realize on how we as human society badly need thoroughly review the present healthcare especially to socio-psychiatry and also to cancer therapy.

Problem with this Modern Society
Our modernized and highly sophisticated society bring numerous advantages over our ancestors, but it is not without consequences. To summarize, we are running anywhere but we find less and less happiness, as it has been pointed long time ago by Albert Einstein.

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As per records in Caltech, he once spoke [1]:

“Why does this magnificent applied science, which saves work and makes life easier, bring us so little happiness? The simple answer is because we have not yet learned to make sensible use of it. In war, it serves that we may poison and mutilate each other. In peace, it has made our lives hurried and uncertain instead of freeing us in great measure from spiritually exhausting labor. It has made men into the slaves of machinery, who for the most part complete their monotonous long days’ work with disgust, and must continually tremble for their poor rations. You will be thinking that the old man sings an ugly song. I do it, however, with a good purpose, in order to point out a consequence. It is not enough that you should understand about applied science in order that you may increase man’s blessings.

Concern for man himself and his fate always forms the chief interest of all technical endeavors. Concern for the great unsolved problems of the organization of labor, for the distribution of goods, in order that the creations of our minds shall be a blessing and not a curse. Never forget this in the midst of your diagrams and equations.” (italic emphasizes by these authors)

Although that speech was translated from German, but the essence remain relevant even for our today’s life as scientists, as Harry Gray once remarked:

“That was Albert Einstein on February 16, 1931, to the Caltech student body, translated by somebody and slightly retranslated by me. -- Obviously, what he said over 40 years ago has relevance to our situation today [1].”

Moreover, we are constantly under pressure in every direction of our life. Perhaps the best sociologist and observer of this heavy burden of life is Queen, a British super group from 70-90s era:

Under Pressure

Queen, David Bowie

Mm ba ba de
Um bum ba de
Um bu bu bum da de
Pressure pushing down on me
Pressing down on you no man ask for
Under pressure that brings a building down
Splits a family in two
Puts people on streets
Um ba ba be
Um ba ba be

De day da
Ee day da - that’s okay
It’s the terror of knowing
What the world is about
Watching some good friends
Screaming ‘Let me out’
Pray tomorrow gets me higher
Pressure on people people on streets
Day day de mum hmm
Da da da ba ba
Okay
Chippin’ around - kick my brains around the floor
These are the days it never rains but it pours
Ee do ba be
Ee da ba ba ba
Um bo bo
Be lap
People on streets - ee da de da de
People on streets - ee da de da de da de da
It’s the terror of knowing
What this world is about
Watching some good friends
Screaming ‘Let me out’
Pray tomorrow - gets me higher higher high
Pressure on people people on streets
Turned away from it all like a blind man
Sat on a fence but it don’t work
Keep coming up with love but it’s so slashed and torn
Why - why - why?
Love love love love love
Insanity laughs under pressure we’re breaking
Can’t we give ourselves one more chance
Why can’t we give love that one more chance
Why can’t we give love give love give love give love
give love give love give love give love
‘Cause love’s such an old fashioned word
And love dares you to care for
The people on the (People on streets) edge of the night
And loves (People on streets) dares you to change our way of
Caring about ourselves
This is our last dance
This is our last dance
Under pressure
Under pressure
Pressure

Songwriters: David Bowie / John Deacon / Brian Harold May / Freddie Mercury / Roger Taylor
Now the question is: how can we find out the root cause of this problem of modern society?

Allow us to recall what Adam Grant emphasizes: the basic human motives are selfishness and altruism.

And also we can recall from Genesis 3 that the first fall of our ancestors came from greediness. Now, do you realize: “How far we have fallen in this modern society, where greed has been hailed as highest virtue?”

Quoting Grekko’s remark: Greed is good.

“The point is, ladies and gentleman, that greed, for lack of a better word, is good. Greed is right, greed works. Greed clarifies, cuts through, and captures the essence of the evolutionary spirit. Greed, in all of its forms; greed for life, for money, for love, knowledge has marked the upward surge of mankind.”

We consider this is the true core of our modern reality, all of us have been consumed and drowning in the ocean of greediness. The real irony is that greediness has eaten us alive, from our childhood until we die. Even if we once die, there are those greed developers who sell a piece of cemetery with high price. They capitalize our bodies, our eyes, our jealousy, our heart, our mind, our consciousness. Literally speaking, we are more or less as walking zombies. We are getting improved at the outside, but we are no more than rotten tomatoes deep inside.

At this point, some may ask: How can we repair such a deep problem of our modern society?

Outline of Reasoning: Toward Pneumatological View of Psychology

We all know that Hebrew’s thought on human being is integral, i.e. the whole of body-mind-spirit. But how can we come up with a model of human consciousness based on the Bible?

As a starting point, we choose to begin with Jesus’s sayings, instead of using other trivial sources.

Let us begin by the Greatest Commandment

Matthew 22:37-40King James Version (KJV)

37 Jesus said unto him, Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind.
38 This is the first and great commandment.
39 And the second is like unto it, Thou shalt love thy neighbour as thyself.
40 On these two commandments hang all the law and the prophets.

Our re-reading of the above commandments lead us to model a Trinitarian dialogue within human self: God, self, and others.

Comparing with Adam Grant’s give and take model of human basic tensions inside our mind. Let us consider parallels, i.e. “taking” reflects selfishness/greediness motive of ego, and “giving” reflects altruism motive of conscience.
In other word, now we have two entities in human consciousness: ego and conscience. There is always deep tension between ego and consciousness, between selfishness and altruism. Along these two poles, we need a third entity which has purpose to ease and being intermediary between these two motives. In this problem, along with Neutrosophic Logic, allow us to submit wholeheartedly that the third entity, is actually no other than “the spirit.” (pneuma in Greek, ruach in Hebrew)

![Diagram of human consciousness](image)

**Figure 3:** A model of human consciousness based on The Greatest Commandments in Matthew 22:37-40.

The exact role of human spirit is to enlighten both ego and conscience. While some may raise question of what is new here? It seems similar with id-ego-superego model.

No, it is really in contrast with Freud’s model which is purely materialistic in origin. The notion of spirit is rejected in freud model, that is why mankind reduces to animals in his model, determined by his/her sexual instinct. And there is no way out of such animal instinct in his model.

Sometimes it is called transpersonal psychology:

*Transpersonal psychology is a sub-field or “school” of psychology that integrates the spiritual and transcendent aspects of the human experience with the framework of modern psychology. It is also possible to define it as a “spiritual psychology”.*

An interesting argument spiritual psychology has been discussed in University of Santa Monica’s site:

“If you look up the word “psyche” in the dictionary, you will find “breath, principle of life, Soul.” But if you look up “psychology,” you will find “the science of mind and behavior.” Somehow, in the translation from essence to practice, the most important aspect of “psyche” has been lost. At the University of Santa Monica, we recognize our task as reintegrating the spiritual dimension back into the essence of an authentic psychological inquiry. It is this reintegration that evokes the emergence of a Spiritual Psychology.

**Two Possible Implications: a) in Socio-Economics Model**

In this time we would only discuss the economics implications, based on modelling human identities into two opposites: (a) individualism (we call them: fermions), and (b) collectivism (we call them: bosons).

In a recent paper, we discuss how to solve Mancur Olson's collective action problem [3].

Now, some of you may ask: by suggesting solution to Olson’s collective action problem to save our humanity, where is the article heading? Are we advocating collective society as in old day Marxism hammer? Or are we advocating how to escape from the curse of capitalism’s social darwinism?

Yes, normally you read numerous political-economics jargons, e.g. leftist, right wing, centrist left or centrist right and so on.

But it is not our intention to submit another ideological parlance. In fact, these authors are scientist and mathematician, so we are not so inclined to any parlance.

In our opinion, our tendency to cooperate or compete is partly influenced by the culture that we inherit from our ancestors. One of us (VC) once lived for a while in Russia, and he found that many people there are rather cold and distant (of course not all of them, some are friendly). He learned that such a trait is quite common in many coun-
tries in Europe. They tend to be individual and keep a distant to each other. In physics term, they are like fermions.

There is a developmental psychology hypothesis that suggests that perhaps such a trait correlates to the fact that many children in Europe lack nurtures and human touch from their parents, which make them rather cold and individual. Of course, whether this is true correlation, it should be verified.

On the contrary, most people in Asia are gregariously groupie (except perhaps in big metropolitans). They tend to spend much time with family and friends, just like many Italians. They attend religious rituals regularly, and so on. In physics term, they are bosons. Of course, this sweeping generalization may be oversimplifying.

Therefore, it seems quite natural to us, why Adam Smith wrote a philosophy book suggesting that individual achievement is a key to national welfare (because he was a British which emphasized individualism). It took more than hundred years until mathematicians like John F. Nash, Jr. figured it out that individual pursuit toward their own goals will not lead them to achieve a common goal as society.

That is why, we choose to work out Mancur Olson's theorem, because he is able to condense the complicated game theoretical reasoning (whether one should cooperate or not) into a matter of collective actions.

So, which is better: to be like fermions or bosons? Our opinion is: just like in particle physics, both fermions and bosons are required. In the same way, fermion behavior and boson behavior are both needed to advance the quality of life. Fermion people tend to strive toward human progress, while boson people are those who make us alive. Just like an old song: Ebony and Ivory….they make harmony in society.

We hope this paper helps us to see that collective actions are what made us a human society. And it seems related to social innovations and also social capital too, in other words a society with social capital and collective actions will ensure its sustainable future. But this is beyond the scope of this article, let us leave such a discussion to economists.

So, by introducing this analogy from particle physics theories, we hope to resolve the classic clash between socialism and capitalism, which are no other than a cruel reformulation of the above basic human motives into political struggles, in attempt to put the entire mankind into eternal slavery.

Two possible implications: b) integrative cancer therapy

In this time we would only give a rough sketch of our ideas in cancer therapy, based on the aforementioned: Pneumatological approach to psychology.

In the light of the fact that proper discussion of theology of medicine is quite rare, this section highlights the fundamental problem with modern (Western) medicine. China has taken a step forward by recognizing their cultural heritage called TCM. Of course it must be acknowledged that modern (Western) medicine has been very advanced, but also many problems such as side effects and also many toxic materials due to synthetic materials. It is also well known that chemotherapy has a chance to work at a miserable rate of less than 20%, so it is reasonable to argue that the 21st century requires a conceptual, new approach to treatment.

A few months ago, a respected senior professor of physics in Indonesia, Prof. Dr. Bambang Hidayat, a member of the Indonesian Academy of Sciences, sent an article to a group of academics. In essence he asked: how our response should be to China's recent policies that want to facilitate the practice of treatment based on TCM (traditional Chinese Medicine) in a balanced way.

His concern is certainly understandable, given the current perception of society is that traditional medicine, often referred to as alternative medicine, is usually associated with shamanic practices or strange methods such as turtles, snakes, bruises etc., many of which have not passed any clinical trials.

But there are two important things that we should take note of Xi Jinping's new policy on TCM:

a. This policy starts from realizing that the cost of Western medicine is very expensive, mainly due to clinical trials of humans, so it is quite reasonable that the Chinese government wants to give more balanced attention to the Chinese medicine tradition.

b. Traditional Chinese medicine has grown for no less than 4000 years. However, we shall also note that there are some reports that in Asia, liver cancer can be linked to the use of (excessive) herbal medicines.
The post-colonial reading of Gen. 2: 7

If we glance at Gen. 2: 7, we see at a glance that man is made up of the dust of the ground (adamah) which is breathed by the breath of life by God (nephesh). Here we can ask, does this text really support the Cartesian dualism view?

We do not think so, because the Hebrew concept of man and life is integral. The bottom line: it is not the spirit trapped in the body (Platonic), but the body is flowing in the ocean of spirit [11]. This means that we must think of as an open possibility for developing an integral treatment approach (Ken Wilber), or perhaps more properly called “spirit-filled medicine.”

Let’s look at three more texts:

a. Gen. 1: 2, “The earth is without form and void, darkness over the deep, and the Spirit of God hovering over the waters.” Patterns such as Adam’s creation can also be encountered in the creation story of the universe. Earth and the oceans already exist (similar to adamah), but still empty and formless. Then the Spirit of God hovered over it, in the original text “ruach” can be interpreted as a strong wind (storm). So we can imagine there is wind/hurricane, then in the storm that God said, and there was the creation of the universe. From a scientific point of view, it is well known in aerodynamics that turbulence can cause sound (turbulence-generated sound). And primordial sound waves are indeed observed by astronomers.

b. Ps. 107: 25, “He said, he raised up a storm that lifted up his waves.” The relation between the word (sound) and the storm (turbulence) is interactive.

Which one can cause other. That is, God can speak and then storms, or the Spirit of God causes a storm. Then came the voice.

c. Ezekiel. 37: 7, “Then I prophesy as I am commanded, and as soon as I prophesy, it sounds, indeed, a crackling sound, and the bones meet with one another.” In Ezekiel it appears that the story of the creation of Adam is repeated, that the Spirit of God is blowing (storm), then the sound of the dead bones arises.

The conclusion of the three verses above seems to be that man is made up of adamah which is animated by the breath or Spirit of God. He is not matter, more accurately referred to as spirit in matter. Like a popular song around 80s goes: “We are spirits in the material world.” See also Amos Yong [11]. Therefore, it is inappropriate to develop only materialistic or Cartesian dualism treatment. We can develop a more integral new approach [7].
The integral view of humanity and spirituality, instead of two-tiered Western view of the world, appears to be more in line with majority of people in underdeveloping countries, especially in Asia and Africa. See for instance the work by Paul Hiebert [7,12].

Among the studies supporting such an integral approach is the view that cells are waves, see the paper from Prof. Luc Montagnier [13,14]. And also our paper on the wave nature of matter, as well as the possibility of developing a wave-based (cancer) treatment [15,16].

Concluding Remarks

In this paper, we give an outline of an ongoing study to go beyond Freudian consciousness model. First, we review a recent book by our colleague, FS. Neutropsychology. Then we discuss possibility to reintroduce spirit into human consciousness. While we are aware that much remain to be done and we admit that this is only a sketch, we hope that this paper will start a fresh approach of research towards Pneumatological view of psychology in a realistic nonlinear consciousness space view.

This short article also highlights the fundamental problem with modern (Western) medicine. China has taken a step forward by recognizing their cultural heritage called TCM. Of course it must be acknowledged that modern (Western) medicine has been very advanced, but also many problems such as side effects and also many toxic materials due to synthetic materials. It is also well known that chemotherapy has a chance to work for less than 20%, so it is reasonable to argue that the 21st century requires a conceptual, new approach to treatment.

Message to young readers:

We hope this short article may inspire younger generation of physicists and biologists to rethink and renew their approaches to Nature, and perhaps it may also help to generate new theories which will be useful for a better future of mankind.

Postscript

A Short Note on Plausibility of Experimental Vindication of the Proposed Model

These authors just think of plausible vindication of the proposed intermediate state of fermion-boson, which may be called “ferson”. It may have a chance to get into real observation at CERN etc. It may be indeed interesting for particle physicists who wish to continue the service period of CERN expensive facilities after discovery of Higgs particle. As the readers may already know, they tried to extend standard model to super symmetry but it failed to come to detectors. Meanwhile, we just read that there are two possible theories which seem correspond to an intermediate statistics we’re looking for: (1) any on fractional statistics by Franck Wilczek, which we are not sure, (2) G. Gentile’s statistics which predict the existence of “intermediate particle” between fermion and boson, but nobody has identified any experiment with such an intermediate particle so far. So, allow us to suggest interested readers to read and examine Giovani Gentile’s original paper in Nuovo Cimento (1941). See [17].

Picture 1: Screenshot of first page of G. Gentile’s paper (1941)
We also plan to write up a short speculative paper on this topic, perhaps with title like: “On possible detection of intermediate state of fermion-boson particle from Klein-Bottle physics.” But of course, this topic is to be discussed in other paper.

**Toward Pneumatological Mind-Matter Interaction**

Various models have been proposed to suggest possibility of mind-matter interaction, but mostly fall within QM theory. Other experiments seem to suggest that the effect is quite real, albeit many aspects remain mystery.

There are vast amount of mind-matter interaction models of living systems, from Stuart Hameroff etc’s model, Semiotic Scaffolding model of Jesper Hoffmeyer (which Brian Josephson suggests a new term: **Semiophysics**) etc. See for instance [18-20].

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**Picture 2:** Hoffmeyer’s first page of his paper: *Semiotic Scaffolding of living systems* [18]

**Picture 3:** Prof. Brian Josephson’s first page of his paper [19]
But we prefer to suggest a simpler model based on the fact observed by Benveniste and also later by Maxim Trushin: there is a kind of antenna or sonic-mediated communication between cells. Therefore, we submit a model of mind-matter interaction by a new term: Pneumatological cymatic mechanism, i.e. by the human voice, soaked in the Holy Spirit, then it may affect the material/environment. Nonetheless, we admit that the exact mechanism of Pneumatological mind-matter interaction remains mystery, and this topic is reserved for future research. What we can say for now is: it seems the effect of mind-matter effect over long distance (more than 150km) has been reported, which suggests that this topic is very interesting for next research [21].

See also our previous papers on theo-cymatic view cosmology, in Part III.

Acknowledgement

This paper is inspired partly by Prof. Adam Grant’s deep and insightful book: Give and Take. VC gratefully appreciates Elizabeth and Sujarto in Jkt. Thanks so much for spending many years of being trustful friends and being sparring partners in such uneasy intellectual endeavor like this. He is also deeply grateful to his parents for showing the way through their life on how to walk in 3-mile-an-hour speed with God. Special thanks to Prof. Dr. Bambang Hidayat, a member of the Indonesian Academy of Sciences, for sending Nature News article on TCM (Appendix II). VC dedicates this paper to Father in Heaven, Jesus Christ, and Holy Spirit for always guiding him through all valley of darkness. Jesus Christ is the Good Shepherd (Ps. 23).

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Appendix I

Three Mile-an-Hour God and the Speed of Love

Victor Christianto, Founder of The Second Coming Institute

Shalom, all brothers and sisters in Jesus Christ. Do you realize that our life can be summarized in one word: faster.

Anything we do, we do that faster and faster. Read fast. Eat fast. Speak fast. Walk fast. Drive fast. Pray fast. And so on.

Sometimes we forget that God want to walk with us at 3 mile an hour speed. As a Christian blogger wrote recently [1]:

John 9:1 says, “As he passed by, Jesus saw a man blind from birth.” What if he was driving, running, or in a hurry? Instead, Jesus moved with a pace at which he could “see.” He saw the man. He saw his need and he had compassion.

A Japanese theologian named Kosuke Koyama wrote a book called Three Mile an Hour God. In it he wrote:

“Love has its speed. It is a different kind of speed from the technological speed to which we are accustomed. It goes on in the depth of life at 3 miles per hour. It is the speed we walk and therefore the speed the love of God walks.”

Jesus walks at the speed of love. He's our 3 mile-an-hour Savior. And he sees you. He sees your secrets and baggage, your pain and fear. He sees death and dung, and still chooses to walk among us. To forgive, to heal, to help.

Would you adjust your pace? Would you slow down so that you can “see”? See God's work in the world. See how you might join in on what He's doing. See the people around you. Know their needs. How can we be unhurried, undistracted, and attentive to the world around us? Go for a walk.

Sit on your front step in the evening.

Redefine how you use electronic devices.

Remove a few unnecessary items from your crowded calendar.

Set aside a few quiet moments every day to read God's word. To commune with him in prayer.

“As he passed by . . . ” Jesus sees you. He's your 3 mile-an-hour Savior.

Here is a story of a man who chooses to walk for Jesus, and people whom he met along his walk:

William C. Heller Jr.6/21/2018 05:32:24 pm

This is my brief true story of a time in my life when I took a walk for Jesus. This journey began at highway 55 and Butler Hill road. I began walking up the ramp and praying to God this prayer. God you know I cannot walk to where ever you wish me to go. Would you please send me a ride and the person you desire me to talk to. Half way up the ramp a young man of college age stopped and offered me a ride. He then began to tell me all about his life and the church he attended which is the First Baptist church of Festus.

The next thing he told me is how he was worried about his final exams in college. I told him how I once had to take my exams for my GED and asked God to help me take the test and that help came in the sense of calmness. The next thing I said to this young man was, You go to church, Have you asked God for any help in your life? He looked at me as if he knew what to do next. By this time he was pulling off the side of the road right in front of the First Baptist Church which sits on the side of the highway. As I got out of his car he thanked me for my help. there was now a calm about him as well.

I sat on the guard rail for no more than fifteen minutes and began to walk as I prayed once more the same prayer as before. Right away I heard air brakes on a truck behind me and looked back as this man was only a few feet away and motioned for me to get into his truck. I am John Murdock a dairy driver from Madison, Wisconsin. I said my name is William Heller and I am walking for Jesus. He then told me about a young lady he had met on the road the week before doing the same thing.

John would ask me about all things he had questions about the Bible. As he made his deliveries for the day and the day ended he invited me to stay with him and he bought me dinner and breakfast. I spent three days with John and he left me off on Highway 75 leading down to Atlanta. His last words were, I going to go home and read my Bible this weekend. This is only a small part of my walk for Jesus. If you like to hear more let your fingers do the walking and write me.

My prayer in this sunday morning (22/7/2018, pk. 7:23)

“Jesus, forgive me for trying to do things faster and faster.

Meanwhile, teach me to learn how to walk and work and talk and pray at a lower speed.

Teach me to meet and greet people whom I see along the walk.

Thank you for Your forgiveness and patience on me. Amen.”
References

Appendix II

China to Roll Back Regulations for Traditional Medicine Despite Safety Concerns

Article by David Gray from Reuters

Scientists fear plans to abandon clinical trials of centuries-old remedies will put people at risk.

The Chinese government is promoting traditional Chinese medicines as an alternative to expensive Western drugs.

Support for traditional medicine in China goes right to the top. President Xi Jinping has called this type of medicine a "gem" of the country's scientific heritage and promised to give alternative therapies and Western drugs equal government support. Now the country is taking dramatic steps to promote these cures even as researchers raise concerns about such treatments.

From early next year, traditional Chinese medicines may no longer be required to pass safety and efficacy trials in humans in China. Draft regulations announced in October by the China Food and Drug Administration (CFDA) mean traditional medicines can skip such costly and time-consuming trials as long as manufacturers prepare ingredients using essentially the same method as in classic Chinese formulations. The State Administration of Traditional Chinese Medicine and the CFDA will compose a list of the approved methods.

The Chinese government has been forcefully promoting traditional Chinese medicines (TCMs) as an alternative to expensive Western drugs. Doctors of Chinese medicine have welcomed the new policy, saying that it will make it easier for companies who produce such medicines to get drugs approved and make them available to patients. Lixing Lao, director of Hong Kong University's School of Chinese Medicine, says that although traditional medicines will no longer need to go through clinical trials, the CFDA will still require remedies to undergo preclinical pharmacological testing and drug-toxicity studies in animals or cells to gain approval.

Safety Concerns

But scientists say that safety concerns continue to plague the industry, and that minimizing clinical-trial requirements could put more patients at risk. On 23 September, the CFDA recalled batches of two injectable TCMs after about ten people fell ill with fevers and chills.

Less than a month later, on 18 October, researchers in Singapore and Taiwan published a study in Science Translational Medicine linking liver cancer to aristolochic acid, an ingredient widely used in traditional remedies. Lead author Steven Rozen, a cancer-genomics researcher at Duke-NUS Medical School in Singapore, is convinced that aristolochic acid contributed to the mutations, but says it's harder to determine to what extent it caused the tumors.

Aristolochic acid has also been linked to cancers of the urinary tract and can cause fatal kidney damage. Rozen says it is still in common use, despite warnings from the US Food and Drug Administration that it is associated with kidney disease. "It would be a good time to reassess regulations" of aristolochic acid, he says.

Lao sees people take remedies containing aristolochic acid every day, and says it should not cause problems if taken "moderately and to treat diseases" rather than as a regular supplement. He says more research is needed into how to ensure the safe use of the potentially toxic substance. Overall, Lao is not concerned about safety issues with traditional medicines because, "unlike Western drug development, these herbal formulas have been used for hundreds and thousands of years," he says.

But Li Qingchen, a paediatric surgeon at the Harbin Children's Hospital and a well-known critic of TCMs, says the recent recalls of remedies show that current safety measures aren't adequate. He says doctors need to inform the public about some of the dangers associated with traditional medicines, but that most are unwilling to speak out against them. "Few doctors would dare to publicly criticize TCMs," he says. Li thinks that the government's promotion of TCMs will make it harder for scientists to criticize the drugs "because the matter gets escalated to a political level and open discussions become restricted".

Criticism Muted

With strong government support for the alternative medicines industry, Chinese censors have been quick to remove posts from the Internet that question its efficacy. On 23 October, an article on a medical news site that called for closer attention to the risks of aristolochic acid was removed from social media site WeChat. The story had been viewed more than 700,000 times in three days.

Debate over TCMs has been silenced before in China. Last year, a Beijing think tank — the Development Research Center of the State Council — proposed banning the practice of extracting Asiatic black bear bile, another common ingredient in TCMs. The think tank's report questioned the remedy's efficacy and suggested using synthetic alternatives. It was removed from the think tank's website after the Chinese Association of Traditional Chinese Medicine, which supports the development of TCM, called it biased and demanded an apology.
As well as reducing regulations for TCMs, the Chinese government has made it easier to become a doctor of traditional medicine and to open hospitals that use the approach. Since July 2017, students studying traditional medicine no longer need to pass the national medical exams based on Western medicine. Instead, traditional medicine students can attend apprenticeship training and pass a skills test. And practitioners who want to open a clinic no longer need approval from the CFDA. They need only register with the authority.

The government’s ultimate goal is to have all Chinese health-care institutions provide a basic level of TCMs by 2020. A roadmap released in February 2016 by the State Council, China’s highest administrative body, plans to increase the number of TCM-licensed doctors to 4 per 10,000 people, an increase from less than 3 practitioners per 10,000 people. The government also wants to push TCMs’ share of pharmaceutical sales from 26% to 30% by the end of the decade.

Reference

