

Hidden and manifest Actuality- Li and Chi

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After reading Ruth E. Kastner's book, *Understanding our Unseen Reality*, (2015) and re-reading sections of R.G.H. Siu's book, *Chi*, (1974), surprisingly, I found an apparent commonality between two perspectives. While throughout the history of Chinese philosophical thought the expressions Li and Chi have had significantly diverse meanings, this short paper compares Li and Chi to the new *noumenon*, and *phenomenon* aspects described by Kastner in the Transactional Interpretation of quantum physics.

Li and Chi in Chinese Cosmology

Chuang Tsu, Chinese philosopher of the 4th Century BC, had described characteristics of Chi by using these words: "*When the Chi condenses, its visibility becomes apparent so that there are then the shapes (of individual things). When it disperses, its visibility is no longer apparent and there are no shapes. At the time of its condensation, can one say otherwise than that this is but temporary? But at the time of its dispersing, can one hastily say that it is then non-existent?*"

For Tsu, *Chi/Qi* described vital force functions as the dynamic force out of which all objects or events emerge and into which they all return when their manifestation is completed.

Chu Hsi, an important neo-Confucian Chinese philosopher, (1130-1200) expanded on this concept by stating that there is Li which is the underlying yet hidden base essence of the universe, and Chi is the expressed Li in concrete form. He wrote: "*In the universe, there are Li and Chi. Li is that which pertains to what is before shapes, and is the source from which all things are produced. The Chi is the material (literally, instrument) that pertains to 'what is within shapes,' and is the means whereby things are produced. Hence men or things, at the moment of their production, must receive this Li in order that they may have a nature of their own. They must receive Chi in order that*

they may have their bodily form.” (Reply to Huang Tao-fu, Collected Literary Writings)

Therefore, Chi is described as the condensed material that creates and is expressed in the uniqueness of the many myriad forms of the macroscopic, spacetime world giving rise to everything manifested. On the other hand, Li, of the microscopic or, I suggest, quantum world, is the essence for the macroscopic world. That is, it is in the realm of ‘no things’ or virtual, that is Li. Hence, a ‘thing’ is a concrete manifestation of Li and it, therefore, possesses Li from the first moment of its existence. It is Li that makes things what they are. Thus, according to neo-Confucianism, all categories of objects, sentient or not, possess Li. Since manifested Chi depends upon the Li for its operation, when there is an agglomeration of Chi, Li is also present within it. Chi is the Li as the capacity to condense and thus form things. Yet, the Li constitutes only a pure and ‘empty’ world, without shapes or traces. *“But the Chi is the capacity to undergo fermentation and condensation, and thus bring things into existence. And yet, whenever the Chi exists, the Li is present within it.”* (Recorded Sayings, chtian 1.)

The Chi that moves is called the Yang; the Chi that rests is called the Yin. Thus, according to Chu Hsi, the dualistic elements that are the fundamentals of the universe in Chinese cosmology are produced. He says: *“Whereas the Yang is in movement and the Yin in quiescence, the Supreme Ultimate is neither in movement nor in quiescence. But there are the Li of movement and of quiescence. These Li are invisible and become manifest to us only when there are the movement of the Yang and the quiescence of the Yin. The Li rests upon the Yin and Yang just as a man rides on a horse.”* (Complete Works, chiian 49.)

A scientific interpretation of Li and Chi through quantum theory

We recognize a similarity of Hsi’s Li and Chi to Kastner’s description of the transaction process that creates spacetime and the manifest objects that are found there. This consists in the idea that

there is more to reality than spacetime, and that quantum theory is what describes that subtler, unseen reality.

In this hypothesis, quantum processes take place in a realm scaffolding the spacetime realm. Quanta are not contained in our spacetime world but in the realm of possibilities outside spacetime. Kastner explains that according to the transaction interpretation of quantum systems, elements such as electrons travel by what is a physical entity called an offer wave, which is offered from a source called an emitter, to a destination called an absorber. The microscopic emitters and absorbers are quantum objects and not in spacetime. When there is absorption of the offer, this process gives rise to a confirmation wave that travels back to the emitter. This process of an offer responded to by a confirmation is the basic 'handshake'. The confirmation is also like a mirror image of the offer representing an incipient transaction whose essence is merely possible energy rather than real energy. The process of the creation of new particles can only be treated by relativistic quantum mechanics.

Once there is a matching confirmation, then the property is defined as actualized, brought into spacetime, becoming a classical property. The incipient transaction is actualized and becomes an observable event in the macroworld. A spacetime object begins at the point at which a confirmation has been generated. Real energy is only conveyed in the actualized transaction; in fact, only through an actualized transaction can real energy be radiated or transferred from one object to another.

So indeed, a reliable macroscopic object is a consistent absorber and can be defined as a system of many actualized transactions. Kastner uses the example of a Geiger counter to illustrate the difference of the two 'worlds'. A Geiger counter exists as an object in the macroscopic world being a conglomerate of actualized transactions. But it also maintains its roots in the quantumland domain of possibilities because it is comprised of atoms, which can act as emitters or absorbers. Measurement occurs both whenever an absorber is accessible to an emitter and when confirmations are generated.

Thus, we can consider that the emitted offer wave from quantumland or Li is actualized in the transaction, or Chi created from the process at the inherently unpredictable quantum level to the macroscopic level of transformed spacetime events. In fact, there is no spacetime or things and substance apart from those transforming events. In the subtler level of uncertainty or quantum, emission or absorption of transaction are not automatically assured, they are only tendencies: the swapping of virtual quanta which do not participate in energy transferring transactions unless they are elevated to offer waves or real photons.

The distinction between macroscopic world and microscopic or quantum world is made when classical physics describes the macro of atoms and other fundamental components of matter while the underlying hidden actuality corresponds to the quantum level. For humans then, the essence of existence is fundamentally quantumland or Li, while our experienced Actual as expressed through Chi is the manifested in spacetime.

Conclusion

To conclude, everything around us is the result of an actualized event established through actualized transactions. This is the world of appearance or spacetime. But all those events are brought into spacetime from the vast unseen hidden reality of quantumland which exists as the essential scaffolding that supports our spacetime world of experience. In this light, it becomes possible to clearly draw the similarities between the Chu Hsi's Neo-Confucian concepts of Li and Chi with Kastner's proposed operation of quantumland and spacetime. This matching of perspective represents an opportunity to put in perspective two apparently unrelated representations of the physical and non-physical world, which actually share a common ground, thus helping to illuminate the position of both on the operation of forces in the universe. The Chinese conceptualization of these principles allow for a more literal and descriptive explanation of the sometimes obscure and 'mysterious' principles of quantum physics. Therefore, the correspondence of the 'ancient' observed

insights of the processes of existence are doorways to the similar but more analysed and detailed scientific explanations allowing for a more metaphorical and accessible grasp of the topic.