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The Apparent Understanding of Traditional and Alternative Medicines by Modern Scientific Medical Culture

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ABSTRACT

Traditional knowledge is more and more an established resource for modern medical science. Yet often its relevance is considered as long as biochemical terms are clear, whereas the interest leading to investigations to disclose those terms is delayed or hampered by the lack of understanding of the bigger, older philosophical corpus of knowledge and culture that has produced a given specific treatment or formulations. These notes suggest how and why this might happen and why a wider understanding at philosophical level might boost scientific progress resulting from the encounter between modern Science and Traditional and Alternative Medicines.

For decades the long wave of positivism on progress and inventions had supported a confident and hopeful view of all things science in the western world and has pushed confidence and support for research and development from the academic level to the large industrial level.

Profits and investments have become stratospheric and consequently so their conditioning effect on politics of development. Still today all types of ventures in genetic engineering and pharmacological industrial development allure large resources and investments, still promising for even bigger revenues.

Be that as it may, statistics often, especially in recent times, have become rather sobering: sure, the stratospheric development of industrial medical applications of pharmacy and biochemistry have erased diseases once pandemic, have tamed plagues in large areas of the world, yet considering some worrying conditions, very heterogeneous ones, things seem to have come to a halt.

Medical science has at present some unsolved problems, actually plaguing our society for some decades, but now increasingly worrying: western society seems to feel the bite of medical problems that before were accepted as age related, but now are hitting on younger generations and at a higher frequency, such as Parkinson's and Alzheimer's diseases^[1,2]

This necessity, among other more culture related reasons, could be the drive behind a large and increasing interest in the "potentials" of what western culture calls alternative or traditional knowledge. Potentials that often, in fact, are granted facts, within those types of knowledge.

So while all cognitive efforts in the medicine of the western world seem to have become regimented by the more and more complex laws and rules of academic and industrial resources, the alternative traditions once relegated to the role of little more than *curiosity* in the mainstream medical science and surely not the first treatment of choice sought, have become more of a new basin of resources to tap from.

This is a slow yet rather perceptible direction of development that the cognitive efforts of our western medical culture have started to show more and more recently. It is undoubtedly a positive fact: it represents the progressive fall of once strong conceptual and cognitive borders that always, since cultures exist and operate, and since Science has earned its name and brand, have limited its progression often by rather unscientific dogmas.

How does this integration of medical culture of ancient and very large cultures into modern Science take place? But more specifically: does it really take place as a mutual understanding or is it simply, at least so far, a partial digestion of concepts and facts into the otherwise still self-centred and self-referential cognitive structure of modern Science?

Traditional Knowledge (TK) is a widely used term to define medical cultures based on traditions other than the one approximately defined as western medicine. The same can be assumed for different, more regionally specific definitions, such as the Traditional Chinese Medicine (TCM), albeit TK itself has established itself since the last turn of the century almost as an official standard term meant almost exclusively and specifically for the Indian system of medicine. Indeed the Chinese and the Indian medicine cultures can be seen as among the widest most ancient and most voluminous sets of medical culture, among all those that the Western World rather self referentially defines as “*alternative*”. The concept of “*alternative*” implies necessarily the assumption of a main, central standard set of canonical knowledge. Hereafter I will refer to Traditional and Alternative Medicine (TAM) as to the whole set of *alternative medical knowledge*, TCM, TK and all possible other ones, even if less known.

Any self-referential standard of western Science notwithstanding, TAM has been accepted as important source of knowledge and solutions to diseases more and more in the last decades.

The western scientific medical culture of modern days is often perceived as a coherent, established monolithic corpus of knowledge and notions, by most of its authors, operators and contributors, but mostly by its end-users (e.g. patients). It almost associates with the feeling that *finally* after centuries of guessing, superstition and magic, we know what all is about. Ironically, this must have been often the same type of self-perception that knowledge had in the past centuries, as for instance it taught that the Earth was flat (a concept which had been abandoned progressively far earlier than we commonly think, by the way).

But this solid impression might vanish at a deeper look. Also within the western medical tradition there have been cultures developed from what at the time was nothing but an alternative approach, other than the main established schools of thought, institutionalized in a given time and historical era: the Galenic school was in itself part of a larger rather complex philosophical Aristotelian tradition and it crossed centuries influencing and being reciprocally influenced by the Arabic and Islamic schools, necessarily evolving into newer sets of concepts and assumptions, beyond the original one initiated by its founder in the 2nd Century AC.

Through centuries, this tradition had evolved being challenged much more in its philosophical basis, than in its “*scientific*” character. In fact, Galen himself belonged to a world whose knowledge was eminently considered as philosophical, the understanding of Nature, *Physis*, being actually an eminently philosophical task. Galen himself being considered often more a philosopher than a medical doctor primarily, gave us the maxim *Quod optimus medicus, sit quoque philosophus*^[3]. Changes resulted also by the confrontations and exchanges with Islamic medicine, leaving an impact that left the medical traditions profoundly influenced and also by controversial characters such as Paracelsus with his critical rebellious attitude, that left behind nothing that we can practically use nowadays as a cure, yet caused a change of approach in considering Nature and its single elements as a potential cure, in a way that widened the perspectives based on the traditional main schools as they had been until then^[4].

The progressive, steady increase of means, both technological and intellectual, applied to the understanding of Nature, including human nature, led to what we only very recently could define as “*scientific*” in proper terms, with observations, experiences and discoveries that make our modern science what it is, but nevertheless were born or have their roots in times and ages when practices more prone to magic and sorcery were considered common standard ways to cure and generally to interfere with Nature and arguably manipulate it. Isaac Newton believed in magic and alchemy, indeed vivid examples of a vision of the world and life that undoubtedly belongs to the past we so much like to romantically define as “*obscure*”; yet he is the author of one of the most fundamental principles in the progress of Science as it is intended today^[5].

The concept of Western Medicine is therefore a mere simplification, a self referential rather oversimplifying and flattening concept, that takes into account only a superficially thin layer of all the developments of knowledge that the so-called “*occidental*” tradition actually was born from and it is used by its acolytes and disciples as a part of the paradigm that implies its centrality as opposed to anything “*alternative*” (basically “*anything other*” as the etymology goes). This attitude often forgets or simply fails to consider the intrinsic complexity of the whole medical and scientific tradition and history in the western world, made of a plurality of traditions and intellectual pathways intertwined along the centuries: in itself the result of many alternative cultural cognitive paths.

Underlying any medical or scientific culture, there is a different philosophy, a different way to order and understand phenomena of Nature. When in a given time two different cultures and ways of understanding meet and start to relate with each other, we can recognize schematically a “*donor culture*” and an “*acceptor culture*”. It is usually a mutual process, so we might hardly have a pure separation of the two roles, but we can exemplify saying that for a given subject-matter and in a given time, one culture is the *donor* and the other the *acceptor*. When we say that a culture “*understands*” another, this means that the *acceptor* culture translates the terms and concepts of the *donor* culture into its own ones. It observes analyses, dissects its beliefs, its creeds, claims and theories, and finally reorders each element in a framework that makes it compatible to its own paradigms. This can vary between a total acceptance with an almost total incorporation of the donor culture into the acceptor culture, and the total refusal, which could often lead to conflicts, mainly of intellectual nature, at least as far as medicine and science are concerned.

This process of “*cultural digestion and assimilation*” is what makes a culture able to understand another in a way that both or

at least one of them progresses further and evolves. It implies the confrontation with its own prejudices and long established often long unquestioned tenets and dogmas, which might be of obstacle for the reciprocal understanding and acceptance. Science and Medicine are no exception to this and centuries of cultural movements have seen philosophical confrontations and exchanges that lead to one given culture as it is to be found at present.

The thing with the occidental scientific medical thought of modern times is that it tends to standardize and create concepts which are intended to be comfortable for the main culture and context that produce them: stable, standard, objective, proven, reproducible, it all has to fit like in a frame of objectivity and pseudo-mathematical certitude. This is how modern western scientific and medical culture likes to portrait itself. In a way, it all fits the nature and type of our own modern culture, which finally science has to serve: industrial, economical, reproducible, exportable, and interchangeable and last but not least, profitable. Homologation with this type of vision tends to be possible only as long as these parameters are met. Hence, also real understanding is subject to these parameters. An “*alternative*” science is merely tolerated or even rejected *in toto*, if not reducible in these terms. Science and medicine are no exception.

When the two cultures relating to each other as *donor* and *acceptor* have also different levels of establishment in the whole world culture, one might be dominating over the other. The dominating medical culture in the modern world, on the basis of which entire worldwide economical and industrial relations and forces are ruled and built upon, is obviously the one based on the western scientific rationale. This bears as a consequence that all *alternative* traditions and cultures have been *acceptors* until now, having to review and translate all their concepts into the scientific language, often seen as the proof separating real medicine from superstition and unfounded practices.

This nevertheless does not mean that also the minority cultures might not turn into *donors*, and this is in fact what has been happening for quite a while, with an interest from the western scientific community, which has long overcome the borders of anthropological studies.

Such interest of western science and medicine towards traditional alternatives is subjected to the same type of parameters: in order to *understand* new medical cultures, they have to be analysed, dissected and translated into scientifically compatible terms, i.e. biochemical and physiological terms.

This apparently sincere interest is being enhanced and widened by the increasing, yes, sadly not decreasing^[5,6] number of cancer deaths every year, steadily rising for over three decades, the increase of neurodegenerative disorders at earlier ages^[2,7], just to point out two striking instances. Industrial research pressed by a tantalizing need of profits and compelled by regulations often obscure, shows its limits, which become tangible if we consider and compare the level of investments and profits on one side with the frequency and level of the output, at planetary level on the other side. Either the promised dream-like outbreak of our brave new world of molecular age has been scheduled for a later time, or something is going severely wrong, when compared with the expectations.

Along with this crisis, hardly to be denied in spite of all the intellectual efforts and attempts to minimize or deny it, a thirst for “*otherness*” has been seeping through the fabric of modern western society involving also the scientific and medical world: Ayurveda, Homeopathy, Chinese Medicine, and all more or less related or vaguely related practices (at least to a “*western eye*”: Osteopathy, Acupuncture, holistic approaches, Reiki, Meditation, Hypnosis etc.) have been so compelling that even national health systems have considered including them into their recognized treatments (when not for other reason, at least for the money that can be made, as with anything that sells because it’s fashionable).

Indeed recognizing the limits of modern molecular engineering and *industrially driven* pharmacology and health research and giving an eye to what other ancient cultures might have achieved or even could still achieve is a sincere sign of interest, yet the way this interest translates into is hardly to be conceived outside of the parameters mentioned before, defining a cultural “*digestion and assimilation*” process.

As a result, many elements of these medical Sciences are isolated and applied out of their original cultural and social context: western society will consider its dear old “*scientific*” adage made of trial, control, error and repeat to pick up and choose what kind of practice, treatment, substance will fit. Finally, once we see that *it works*, we need a *scientific explanation* or a *scientific proof*. Which only means that we need to reduce into our own terms of understanding what we would otherwise not comprehend and therefore refuse as “*magic*”, “*superstition*” or whatever else “*unscientific*” might pop up in our list of adjectives (“*quack*”, “*bogus*”, “*delusion/illusion*” are other ones loved by the apparently pro-science followers of our positivistic modern tradition).

This assimilation is necessary, as it is any translation in any language and information. Yet, as for the latter, a proper philological correct context is necessary. The problem is, often *this* is missing.

A proper philological context means that the concepts and rationales are ordered in a way that even if not anymore in conformity with the original according to the “*donor*” science, these original contexts are taken into account. To make an example: acupuncture can be explained in scientific physiological terms, of nerves, tendons, proprioceptors etc. Yet, this was not the type of concepts that mattered in the original culture, made of Meridians, *Chi*, *Ying/Yang* etc.

Similarly, fundamental concepts such as the elemental substances (*Pitta, Vatha, Kapha*) considered in the Indian medicine are, among other rather concepts, at the basis for the rationale of manipulating the state of health of an organism, but in the western version the substances are understood only in terms of stimulators, inhibitors, sedatives, excitants, etc., i.e. all based on what we consider the physio-neurological framework on which some natural compounds act. By doing this, we risk losing (or we simply lose altogether) the bigger picture that would allow a wider comprehension on different perspectives, what probably the conventionally established analytical scientific approach would benefit from.

A substance used for its efficacy in Ayurvedic terms is often taken in an occidental context as a simple effector for its biochemical and physiological properties and effects without the slightest consideration for the complex relations that the substance has in its original culture. It might then not be too surprising, if the efficacy of that substance might not be as claimed in the original “*donor*” culture. Indeed, as it is for compounds such as Turmeric, eminently arisen as one of the recent new hopes against cancer, Triphala (incidentally also gave promising results in vivo against pancreatic cancer very recently^[8]).

This might even involve fields that are not directly scientific or medical, but extremely important and *still somehow related tho the medical and scientific fields nonetheless, such as those related to industrial and intellectual property: if the use of a given substance* known for its properties in the Ayurvedic context (most probably, a substance which is not new, since it had been known for millennia), has to be evaluated in modern scientific terms, precisely physiological and bio-molecular terms, then it might be likely that it won't be recognized or confirmed as effective. To put it simply, it might be not recognized if it simply “*does not work*”. But its functioning (or not) is evaluated according to the parameters that are purely “*occidental*” and with no reference nor consideration for the interactions of elements and concepts defined in the medical culture of origin. The result is that the scientific approach might cause western medicine to lose opportunities, hence failing with its foremost aim: curing ailments.

Why? Because if the biochemical mechanisms are not disclosed, but everything is explained in Ayurveda terms, the understanding of these contexts might be missing, leading to a lack of recognition for the effectiveness of that formulation or compound.

Even the inventive character of a formulation can be seen or not seen, depending in which context the formulation is considered: an Ayurvedic substance and its use in a given treatment might be seen as marvellously inventive by an “*occidental eye*”, with little or no real competence of Ayurvedic literature, whereas that use might result obvious under the scrutiny within Ayurvedic parameters and relations. The other way around happens, when a perfectly established traditional method or formulation simply “*fails*” to pass the scientific bench trial. The latter is definitely not the case of Triphala^[8] and other examples of Ayurvedic formulations and substances, which have been heavily scrutinized according to the parameter of the *acceptor* culture: molecular biology, as Turmeric for instance^[9].

Now a question should arise: how on earth formulations as the two examples above could ever establish as cures and treatments for centuries if no bio-molecular evidence was ever available, obviously, and especially given the fact that their effectiveness in vivo is strongly inhibited by a poor bioavailability (often due to their strong lipo solubility)? This should have been conditioning their cultural use long before biochemical facts could be established. It must be evident that some other kind of experience must have brought them to success. It might be something that our western scientific industrial bench trial still fails to nail down and harness its potential.

The example above intends to show the case in which a process of cultural understanding works only partially: an ayurvedic drug is understood only in its molecular and physiological terms, not really in its ayurvedic terms and contexts, and this only partially helps science to proceed with a potential new opportunity.

So the call of these lines is simply to widen the perspective of scientific cultural interaction by considering the underlying philosophical cultural framework that has produced TAM formulations and treatments over the centuries and millennia.

This might allow some gain for reciprocal understanding by all cultures involved.

Even by maintaining its essentially scientific character, such an approach can widen the scientific culture, for instance, and by obvious extension, deepening a real understanding of other TAM, for instance with the native Australian culture, which strictly requires the initiation to the whole culture, before granting access to its medical knowledge.

The right reading frame is not just a help enhancing the profits of intercultural scientific communication. It is something that would allow those “*alternative*” cultures to be taken at a level that so far only the Aristotelian scientific analytical method enjoys in the western industrial scientific world and it would allow a more efficient reciprocal acculturation in medical sciences. This seems a rather needed help, in times when a dominant culture seems to have reached some limits, a fact seemingly not bothering much the whole world of interests and profits created by it.

REFERENCES

1. World Alzheimer Report 2015 (www.alz.co.uk).
2. <http://parkinsonhope.org/ambitious-study-world-wide-prevalence-parkinsons-disease/>.

3. [http://www.treccani.it/enciclopedia/scienza-greco-romana-galeno_\(Storia_della_Scienza\)/](http://www.treccani.it/enciclopedia/scienza-greco-romana-galeno_(Storia_della_Scienza)/).
4. <https://www.nlm.nih.gov/exhibition/paracelsus/>.
5. <http://www.zdnet.com/article/for-isaac-newton-science-and-faith-was-all-intertwined/>.
6. <http://www.healthdata.org/news-release/new-cancer-cases-rise-globally-death-rates-are-declining-many-countries>.
7. <http://www.who.int/mediacentre/factsheets/fs297/en/>.
8. Shi Y, Sahu RP, Srivastava SK. Triphala inhibits both in vitro and in vivo xenograft growth of pancreatic tumor cells by inducing apoptosis. *BMC Cancer*. 2008; 8:294.
9. Mach CM, Mathew L, Mosley SA, Kurzrock R, Smith JA. Determination of Minimum Effective Dose and Optimal Dosing Schedule for Liposomal Curcumin in a Xenograft Human Pancreatic Cancer Model. *Anticancer Research*. 2009; 29: 1895-1900.