Human Quantum Mechanics and Human Entanglement Theory: A New Paradigm for Social Sciences and Beyond

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This article catches up with the latest trend in social sciences that has silently spread out across a larger spectrum of academic disciplines, which is quantum-inspired theory building. The method applied is theory building, and the theory built is a metatheory that encompasses all forms of human communication. The theory works with the least common denominators of communication, with words, and anything that is constructed using words or that can be expressed in words (including thoughts and feelings). The author has set up a general theory of human communication, and hence human action, integrating not only Michel Foucault's theory of power relations but also other main social theories that corroborate one another. The key to the new metatheory of human entanglement are the hidden forces that prevent, impede, encourage, and bring about new thoughts and new words uttered, and hence new human decision-making and action. There are many dimensions of human entanglements that specific disciplines need to get hold of and investigate further. This article merely provides a springboard for future research investigations, including further theory construction in all disciplines and topics related to interpersonal and intrapersonal human communication, and human action.

Keywords: *quantum theory, different dimensions of human entanglements, human entanglement theory, hidden causal forces, probabilities of human communication and action*

This article serves as an introduction to the new world of *Human Quantum Mechanics*, particularly into the new metatheory of human entanglement. Here, we are leaving behind in the rear mirror the old, traditional views and concepts of social system theory, any "normal" (in the Kuhnian sense, cf. Kuhn, 1970a,

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1970b, 1977, 1978) social system theory has managed to come up with. A lot of water has passed under the bridges of different kinds of social system theories, it is time to move on and explore new dimensions of human/social action and interaction.

In the past, these "normal" social system theories provided scientists with their views and keys for understanding based on and constructed with *boundaries and distinctions*. Systems must have boundaries and borders. They are marked, enabled, and protected by them. While these concepts will be around for an infinite time yet to come, they are not in the lead anymore; that is, they do not lead to further growth in theory-making. A new paradigm has risen. In the Kuhnian sense (following the theoretical predictions of Kuhn's theory of science), it will take a longer time to catch on. But, nevertheless, it has arrived at the gates of 21st century social science.

The more recent advances in quantum theory, by scientists such as Anton Zeilinger (Nobel laureate in 2022), have since about the 1990s left no stone in physics unturned (cf. Capellmann, 2020; Hill, 2022). At the same time, hidden from most observers and social scientists themselves, non-natural science disciplines have ventured already deep into the realms of quantum-inspired theory-making and methodology (cf Barad, 2007; Beck, 2001; Busemeyer & Bruza, 2012; Busemeyer, Wang, & Townsend, 2006; Carter, 1989; Coale, 2011; Filk & von Müller, 2009; Hakemi, Houshmand, KheirKhah, & Hosseini, 2022; Oppermann, 2015; Surov et al., 2021; Wu, Li, Zhang, & Zhang, 2021; Wendt, 2015; Wilson, 2016; Zohar & Marshall, 1993).

With the experiments by quantum physicists, a new world came to the fore, one in which *entanglements*, quantum entanglements, are already reckoned to be the most powerful force in theory creation, also in the macroscopic world. Wormholes and black holes are now, and/or are attempted, to be explained, and ever more so, in terms of quantum mechanics.

Albert Einstein missed the chance he had to be part of the winning team in the quantum revolution. He decided not to be part of it, and stubbornly so (Aspelmeyer & Zeilinger, 2008; Zeilinger, 2005). At first, he was enthusiastic about quantum theory, but later he became one of its critics from the 1930s onward (cf. Ferrie, 2023; Fine, 1996; Pais, 1979).

Einstein was nevertheless most instrumental in the development of quantum mechanics, and thus quantum theory (e.g. Musser, 2015; Pais, 1979), working closely with for example Max Born and Erwin Schrödinger, and contributing to it a great deal, in most direct ways through personal communication, and then again also generally in terms of quantum theory of photons or quanta, quantum statistics, and so forth.

The fact is that we do not want to miss out on the hottest, and soon most prominent of all, developments in social sciences, that have been sparked by, more recent, developments in quantum physics and now also in the macroscopic physics world, threatening (offering) to unravel all of physics yet again (cf. e.g. Capellmann, 2020).

Spacetime is now thought to be held in place and created by quantum-level entanglements of all sorts. All sorts of quantum particles (cf. esp. Arndt, Zeilinger, & Hornberger, 2005; Clavin, 2019; Swingle, 2018) are thus thought to be connected by forces of coherence (entanglement) that either are permanent or replaceable with other forces of coherence (i.e. in the process of decoherence, where old entanglement is lost and replaced by new entanglement or coherence with the new physical environment).

Mirroring this, it now has become clear that in human sciences (social sciences, life sciences, and humanities), we are already riding on a new wave of explorations and revelations. *New quantum-inspired theories and new quantum-inspired methodologies* are scattered across a wide field of sciences, from psychology to literature science, from finance to mathematics, as well as data and computer sciences (see above).

While every discipline has its inspiration, its own needs, and goals, and thus makes most informed choices of how to interpret the principles and breakthroughs in quantum mechanics, quantum gravity theory, quantum computing, and all that, the idea that yet unseen forces are at the core of the social universe and the human universe (of communication, of human data, etc.) is a new, and for many a challenging, revelation. It is indeed a difficult task to leave behind old ways of thinking and sticking to what we already know so well for a century or two.

Einstein maintained throughout his later life that quantum theory is coherent but incomplete (cf. Einstein, Podolsky, & Rosen, 1935). The same is now also applied to "normal" social system theory, as well as Luhmann's special version of his system (communication) theory (Luhmann, 1984, 1988, 1990, 1994, 1997, 2012, 2014, 2023). They are *coherent but incomplete*. And the missing pieces are now slowly, one by one, added by looking at breakthroughs in *human entanglement theory*, which explains human behavior, human thinking/feeling, and human decision-making, *by forces that are not seen, but that are most consequential, especially given their long-term effects and cumulative effects.*

> *The forces of human entanglement*, we carry in us, are formed by language, by words and the particular ways of common logic and common sense we use, our past experiences and communications, and by our social, cultural, political, and natural environments.

The theory of human entanglement is a continuation and extension of Michel Foucault's (1975) *power relations theory*. Foucauldian power relations are human entanglements of a certain kind (cf. Balan, 2010; Foucault, 1975, 1976, 2009, 2010, 2014; Gaventa, 2003; Lukes, 2005; Powell, 2015; Rabinow, 2010). There are more kinds of entanglements out there, in the human world. Human entanglement theory now offers *a universal meta-theoretical approach* to theorize and thus describe and explain all these human entanglements at once.

Building in the past on Niklas Luhmann's theory (1984, 1997, 2023) of social communications (a.k.a. his version of a social system theory), the author for long

now has extended the Luhmannian theory of communication to now also include intrapersonal, and not just interpersonal, communication (cf. e.g. Aspalter, 2023b: 111–112, 116–117; 2021, 2010, 2007, as well as Singh & Aspalter, 2008). The theory of Luhmann was extended to include the psychological. A new theory of the *noodle of human communication* (ibid.) took the place of the old theory of social systems (any social system, normal ones or the Luhmannian kind). With the theory of Foucauldian power relations, social science theory has now become more aware of *social forces*, as these have now moved to the center and into the spotlight of social investigation, be it in the field of social policy, social work, sociology, economics, public policy, and administration, or communication and media studies.

The *theory of the noodle of human communication* was for the first time focusing *on time*, on the connections *through time* (which is represented by the metaphor of the "noodle" itself), which are needed to understand human action and communications in general and in detail.

In addition, it needs to be noted that not all human actions are human communications or actions with communicative meanings. The *theory of human entanglement* is a theory primarily of human communication, all sorts of human communication, including intrapersonal and of course interpersonal communication, but also human-to-machine, machine-to-human, and machine-to-machine communications (as humans made them, and programmed them in the first place, and artificial intelligence machines or robots are essentially learning from humans and/or mimicking or copying them as much as they can, apart from their follow-on creations).

The Nature of Human Entanglements: Intangible and Stealthily-Hidden Psychological, Social and Cultural Forces

As with Foucault (1975), the task of lifting the veils of obscurity and disguise is monumentally important for a thorough grasp of what human entanglements are. They are intangible forces. They act and accumulate over time and in combination with one another. There is a myriad of human entanglements.

Foucault's power relations were just the beginning in the understanding of the diverse web of, sometimes more, sometimes less, causally important human forces that are enshrined within the humans themselves. They act from within the humans, they guide all of their human communication, all of their thinking and feeling, and with it the very most of human action. At the same time, they can be triggered and formed by received communication from the outside world (formal and social media, government rules and actions, court rulings, fines and punishments, charges, costs, social and cultural practices, and so on).

The author here is not the first who realized that there are at first unimaginable powers at work within humans (cf. also Clark, 2008; Le Bon, 1896; Nietzsche, 2014: 346–347), within worlds and fields of human communication, across vast distances of time and (nowadays thanks to the internet and other technological advances) space. The means of transportation and storage of the powers of

human entanglements are, when looking at their least common denominator, all present *in words*, the atoms of human communication. Lev Vygotsky, for one, was superbly clear about the role that words play in human psychology and human action. He noted that

> "[i]f language is as old as consciousness itself, and if language is a practical consciousness-for-others and, consequently, consciousness-for-myself, then not only one particular thought but all consciousness is connected with the development of the word. The word is a thing in our consciousness... that is absolutely impossible for one person, but that becomes a reality for two. The word is a direct expression of the historical nature of human consciousness... A word relates to consciousness as a living cell relates to a whole organism, as an atom relates to the universe. A word is a microcosm of human consciousness" (Vygotsky, 1986: 255).

Confucius also fully emphasized the devastating powers of words and concepts, if they convey wrong names, wrong denotations, and connotations, as he said:

> "What is necessary is to rectify names ... If names be not correct, language is not in accordance with the truth of things. If language be not in accordance with the truth of things, affairs cannot be carried on to success." (Confucius, Book XIII: Ze Lu, 1893).

Our human thoughts and thinking are the outcome of the forces that control words and language:

> "we are controlled by language, especially by socially constructed distinctions, because they often instill unnatural desires, shape evaluative perspectives, and develop biased attitudes. ... through learning language one internalizes society's preferences" (Komarzyca & Fras, 2020: 25).

The author recently explained the unity of the forces of words and communication, and the forces that control these forces (entanglements of entanglements):

> "That is to say, all communication, also intrapersonal communication, such as, dreams, feelings, ideas, hopes, expectations, stereotypes, memories, are all part of the same system of communication that makes up society.

> Social communication is spun further and relived, and reedited, when one is not socially communicating. But, as soon as one communicates again, this now enhanced, edited, or simply changed communication enters again the social stream of communication.

> They both, social and private communication, hence, are inseparable, in general and particularly for the purpose of our understanding and theory

of how human action and human communication is working and how it is not, and what affects it, by and large, for the most part, in most people" (Aspalter, 2023b: 63).

As noted by Leydesdorff (2000) and Habermas (1987), language is the medium that unites *the individual* with *the social* (cf. also Freud, 1921; as well as Clark, 1996 and Nietzsche, 2014[1878]: 343, 133).

According to the theory of the noodle of communication, the past flow of communication is key for any next communication (or communicative action; like feelings in the intrapersonal world, and action with the meaning of communication in the interpersonal world). Nietzsche told us clearly that

> "[i]mmediate self-observation is not enough, by a long way, to enable us to know ourselves. We need history, for the past flows on within us in a hundred waves. We ourselves are, after all, nothing but our own sensation at every moment of this continued flow..." (Nietzsche, 2014 [1878]: 343–344).

Nietzsche also pointed to greater intangible, yet fully devastating historical forces that are created by human communication, which have changed the course of history here and there, time and again:

> "Here and there we see with terrible clearness the harlequinade of Fortune, how she fastens the rope, on which she wills that succeeding centuries should dance, on to a few days, one place, *the condition and opinions of one brain* [that of Martin Luther]. ... now, in order to have a still stronger idea of the dreadful farcicality of it all, let us add that none of the *principles* about which men [Martin Luther and his followers] then disputed in Regensburg—neither that of original sin, nor that of redemption of proxy, nor that of justification of faith—is in any way true or even has any connection with truth: that they are now all recognized as incapable of being discussed. *Yet on this account the world was set on fire*—that is to say, by opinions which correspond to no things or realities ... Lastly, it only remains to be said that it is true *these principles give rise to sources of power so mighty that without them all the mills of the modern world could not be driven with such force.* And it is primarily a matter of force, only secondarily of truth (and perhaps not even secondarily)—is it not so, my dear up-to-date friends?" (emphases added, *The Tragi-Comedy of Regensburg*, Nietzsche, 2014 [1878]: 346–347)

Gustave Le Bon, also already a long time ago, due to his sharp historical and empirical insights, has referred to the revolutionary forces of human entanglements, in yet another clear manner (that clearer it cannot get):

> "The true historical upheavals are not those which astonish us by their grandeur and violence. The only important changes whence the renewal

of civilizations results, affect ideas, conceptions, and beliefs. The memorable events of history are the visible effects of the invisible changes of human thought. The reason these great events are so rare is that there is nothing so stable ... as the inherited groundwork of its thoughts." (Le Bon, 1896: xiv)

Hence, while there have been eye-opening revelations from several most important and most keen observers in the modern history of social science and philosophy, there has not yet, until now, been a theory that united it all (cf. also Clark, 1996). This is what the theory of human entanglement has set out to do, and what it has done, effectively and coherently.

As to the nature of these entanglements, it is important to point out that these forces are *not entirely deterministic*, they are *probabilistic*, and this means *there is room for freedom*, *for free will*, always. It is just that this room more often than not has been narrowed a great deal by the cumulate forces of entanglements and their cumulate effects on most people, be it in most developed countries on earth, or the ones that were least touched upon the forces of modernization, as they, too, have a myriad of religious and cultural forces in and at play.

Random they appear, random they are not, human actions and human communications. The forces not seen exert a tremendous effect on one's choices of words and lifetime decision-making. Yet, they can be shaken off, by a few, rather than by the many.

Plato's *cave allegory* (Plato, 2011: 514a–521d) and Weber's *iron cage theory* (Weber, 1952: 181–182) are both superbly valid and needed to understand the forces that act upon us, with every word or sentence, with every sensory computation and feeling produced, and thus every communication-wise meaningful human action.

Human entanglements operate through all forms of human communication, at all levels of human communication.

The web of every human entanglement is composed of different kinds of entanglements—each with different effects (some are wanted, others certainly not)—at different dimensions of entanglement. These different dimensions are located at lingual, psychological, social, political, legal, administrative, financial, economic, cultural, religious, and environmental levels.

These human entanglements are *either* "compelling and/or enticing" or "preventing and/or discouraging" our human words, thoughts, feelings and (communicationally meaningful) action. In addition, we can look at them as either exerting different degrees of positive effects or negative effects; or for that matter (in sum, or *per se*) neutral effects.

This needs to be measured and/or classified by the researcher at hand, who works with the human entanglement theory in any specified field, on any specified topic and research problem. Just with Luhmann's theory of social communication, a.k.a. Luhmann's system theory (1984, 1997), one needs to find applications of the human entanglement theory, and methods to apply it, in discipline-specific, field-of-study-specific and research-purpose-specific ways.

To be clear, it is a descriptive and an explanatory theory, thus, normative evaluations and prescriptions are not the focus of the human entanglement theory (as was the case with Luhmann's system theory).

This web of human entanglements, plus entanglement of entanglements, is causal in forcing upon us, *in probabilistic ways* (*not entirely* but only largely deterministic ways), our words, the thoughts, and feelings we create, our behavior at every moment, across the entirety of our lifespan, and the entirety of the lifespan of our civilizations (cf. esp. Le Bon, 1896 and Nietzsche, 1887; but also Book XIII: Ze Lu, Confucius, 1893; Foucault, 1975; Aspalter, 2023a, 2023b).

> "Human entanglements are created by establishment, maintenance and promotion of (often dichotomic) evaluations, legitimizing arguments and rationales, and of course attempts to convince others to support rules, rulings, laws, policies, and practices.
>
> These are pre-authorized—non-self-authorized, non-questioned— common sense arguments, applied/manufactured logics, rules and evaluations. These entangling systems hide in secrecy and complexity. They cover up with denial, confusion, lies and confrontation.
>
> With time, the ferociousness of human entanglement increases, also their stealth." (Aspalter, 2024)

Apart from Foucault's *theory of power relations* and his "civil war" theory (1975), the *theory of hegemony* by Antonio Gramsci (2011a, 2011b, 2011c; cf. also Ives, 2004; Martin, 2022) and the *theory of distorted choices* and the *theory of super inequality* (Aspalter, 2023b) are also fully encapsulated by the *theory of human entanglement*.

Each of these theories fully corroborates the other, they provide a fully coherent picture that explains human misery on a grand scale. This includes systemic world poverty and systemic poverty anywhere, systemic indifference to appalling social problems and human misery (e.g. millions of children dying of starvation every year, to name just one), systemic abuse and discrimination of ethnicities and entire parts of the world, and so on.

These entanglements of entanglements that create these very human miseries *are put and held in place by the most wealthy and powerful ruling elites* all over, wherever they are. It is them who are absolutely profiting from human inequality, from poverty, from the lack of government responses all along (Aspalter, 2022, 2023a, 2023b; Gramsci, 2011a, 2011b, 2011c).

Conclusions and the Way Forward

If anyone has pinned all his or her hopes on the importance of rational thinking to reach enlightenment for oneself and for humanity, one may be utterly disappointed either way. The theory of human entanglement opposes, vehemently, any idea that rational thinking is a remedy, as it is *the culprit* behind government inaction as

regards solving social problems locally, domestically, and worldwide. Rational think-
ing is engineered and geared by textbooks and formal and social media (cf. Chomsky,
2017, 2004, 2002a, 2002b, 1987; Herman & Chomsky, 2002; as well as Bernays,
1923, 1928), and it is not helping the poor and the ones who are desperately in
need of help—they help only the most wealthy and the most powerful and their
administrative, intellectual, and other vassals (enforcers and accomplices).

Thus, Habermas (1981) is wrong, he pinned all his hopes on rationality and
thought modernity is still incomplete (cf. Habermas, 1988, 1994, 2004, 2005).
Yet, *miseries all over the world are already complete*, and they keep on dispersing
and multiplying, and the workings of the forces of communication—the media,
the education system, the welfare state system, the punishment systems (tax and
"justice" systems, social insurance taxation systems included), the financial and
credit systems, most unequal landownership and capital distribution, appalling
wealth inequalities and income inequalities—are still being, and constantly so,
upgraded in terms of their destruction, oppression and controlling strengths,
functions and their implementation methods (enforcement and reinforcement
systems).

A second even theoretically more relevant conclusion here is that social sys-
tem theory is outdated now, de facto, by the arrival of a force-based universal
metatheory (cf. Steiner, 1988). Human entanglement theory is *not* a boundary-
or demarcation-based theory anymore. This is a *paradigmatic change*, away from
a larger range of previously dominant, traditional sociological theories, that is
sure. Preventative, limiting, encouraging, and enabling forces instead make up
the structures of society, its orchestrations, its progresses, its stagnant states, and
its regresses—that is development and nondevelopment. We do not operate in
boxes or containers, as Ulrich Beck (2006, 2007, 2009, 2016; as well as Beck &
Sznaider, 2006) and Joseph Schumpeter (1951) have rightfully and (fortunately)
forcefully argued and thus successfully explained.

Science, thus, has to do away with containers of thinking, of measuring, of
theorizing society and containers of all social and human action. We need to add
specific analyses of all detailed forces (entanglements), their networks, cumula-
tive effects and network interactions, and we cannot just live and work, in science,
by averaging everything out, by only using aggregates, that are based on histori-
cal, military and political coincidences of the past (e.g. wars and revolutions that
made, prevented and shaped nation-states).

And, in human sciences (social sciences, humanities, and life sciences), we
need to come to terms with the fact that in general, we operate in terms of prob-
abilities. We are given in general narrow ways of freedom, as we understand
and judge ourselves and the world in pre-given, societally-given ways (cf. Freud,
1921; Le Bon, 1988, 1894, 1896, 1918; Nietzsche, 2014: 343–344, 346–347;
Vygotsky, 1986, 1978).

Third, the human mind, the human body, and the world outside are all one unit,
according to Clark (1996). He was, is, and always will be right. The theory of the
noodle of communication has progressed and transformed itself into a full-fledged

theory of human entanglement. Through these entanglements, everything truly is connected to everything. We need to realize it, bit by bit, the earlier the better.

Fourth, human entanglements are forces that act in terms of their (over time in general changing) probabilities, they prevent, impede, support, or generate human communication and hence human action. On top, there are grand forces of human entanglements, that is, entanglements of entanglements. All of these need to be investigated, rather than just relying on social structure, social institutions, social systems, and their boundaries.

Fifth, the causality of human entanglements can be turned off, or turned on, they can be amplified or dampened. One coherent (entangled) state can be transformed into another coherent (entangled) state. Coherence can be replaced with new coherence (i.e. there is decoherence of the old, former coherent state). Human entanglement theory thus has opened wide new fields of applied theoretical research (empirical theory building and testing) in all of the human sciences.

Sixth, the multidimensional spheres of human entanglements, and their respective entanglements need to be investigated not only one by one but also, and in particular so, in parallel. Past and current human communication creates and maintains complex and multidimensional webs of human entanglements, which led to the establishment, maintenance, and transformation of our ways of how we use words and language, our culture and traditions, laws and regulations, micro-economic incentives (instilled and fortified), fears, motives, information (available/accessed/trusted/amplified), past experiences, aspirations, and expectations. History, language, culture, politics, economics, psychology, technology, and philosophy have now all entered *a unified field* of trans-disciplinary research. A unified world of research (cf. also esp. Clark, 1996; Nietzsche, 1887, 2009), with its least common denominator being human entanglements, that is, forces that potentially act upon decision-making of human communication, and hence human action.

Last but not least, we may also conclude that physics is ahead of human sciences. Physicists have realized new breakthroughs, and are walking already to new horizons. They, thus, have "teleported" quantum theory from formerly only being applied to the miniscule physical world, to be the new super theory that explains everything, also the macroscopic world, from wormholes to black holes, and soon much more, and ultimately everything, for which there is, so it seems to be and ought to be, no limit.

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