

Profiles of Creativity:

An Intellectual Journey: Hisham Ghassib

Renowned theoretical physicist, Prof. Dr. Hisham Ghassib, reflects upon the events and experiences that shaped his world views.

I can safely say that two cultural shocks have shaped the entire course of my intellectual life. The first was the 1967 defeat whereby Israel defeated three Arab armies simultaneously, including the Jordanian army. That devastating defeat was totally unexpected, and, therefore, shook my societal convictions to the core. I was born in Jordan's capital, Amman, in 1950. Prior to the 1970's, Amman was a semi-rural, almost pre-capitalist, country. What shaped my consciousness at the time was, on the one hand, religion, and on the other hand Nasserian pan-Arabism. This naïve nationalist-cum-religious consciousness was shaken to the core by the 1967 defeat.



The second cultural shock was even more devastating. Following the 1967 defeat, I moved to Britain to complete my university education. This sudden mobility from a semi-rural, pre-capitalist, society to a highly industrialized capitalist society not only shook my traditional consciousness, but actually broke it into bits and pieces. I felt my very consciousness torn asunder by shocking events. My naïve religious and nationalist convictions could not withstand the onslaught of the prevailing secular empiricist critical cultural atmosphere in Britain. The ensuing intellectual and emotional vacuum in my mind was truly unbearable. I had to fill it up with a solid alternative. World literature, particularly Tolstoy and Dostoyevsky, was a help. Classical music, particularly Beethoven, Schubert and Brahms, was also a great help. However, they were not sufficient. I turned to Eastern religion, particularly Buddhism. However, I soon realized it was of no help. The state of utter nihilism persisted. I felt the reality of both the external and inner worlds crumbling like a pack of cards. I felt myself questioning the very reality and existence of things and of the self, of the I. Only sense impressions remained almost intact. In a sense, I was experiencing the philosophy of David Hume before reading him. In another sense, I was also experiencing Kierkegaard, Nietzsche, Heidegger and Sartre before reading them. In short, I was beginning to have philosophical experiences.

These experiences prompted me to enter the realm of Western philosophy. This realm managed to replace religion completely, but did not replace my need for music and literature. The latter continued to influence me deeply, side by side with philosophy. Also, at that time, I was beginning to be fascinated by physics. In particular, I was fascinated by the ability of physics to perform precise experiments that accorded precisely with theory without fiddling. That prompted me to choose physics to study at university. Thus, I started studying physics at the University of Leeds. However, it was a painful experience in that trying to grasp physical concepts raised a number of deep and painful philosophical questions. My insistence on logical clarity and coherence drove me to spend much precious time on trying to derive every notion and justify it philosophically. Meanwhile, my existential philosophical experiences intensified, particularly my experience of the strangeness of Sartre's being and nothingness.

I sought deliverance in philosophy. To start with, I found in philosophy a potent expression of my nihilism and pessimism. Schopenhauer and Nietzsche resonated with my state of mind. In particular, I fell under the spell of Nietzsche's fiery rhetoric. Meanwhile, I was beginning to delve deeply into physics, and I was tormented by the question of the meaning of physical concepts. I delved so deeply into this problem that I necessarily delved into philosophy and philosophical questions. I felt the need for philosophical grounding, interpretation and substantiation of these concepts. Kant offered me a partial outlet. However, the main source of my philosophical interpretation was analytical philosophy, positivism, empiricism and, ultimately, linguistic philosophy, including Russell, Wittgenstein, Gilbert Ryle and Ayer. The effect of these analytical methods helped to denude my world and soul of reality and substantiality, and to reinforce my nihilism and emptiness. The world they revealed was indeed a very impoverished world devoid of value. All these orthodox currents, including Schopenhauer, Nietzsche and even Sartre, led me to a spiritual and intellectual cul-de-sac. I soon felt their inadequacy to life and to a proper understanding of physical concepts. Could the world and science be so senseless and inane?

At that time, I started writing feverishly in English as a reaction to the nihilism and senselessness I felt. In particular, I started writing philosophical

notes, recording my philosophical experiences and ideas. I also embarked on writing dramas, expressing the emotional side of these experiences and ideas and exploring the practical consequences of these states of mind. Meanwhile, in physics, I found myself wrestling with the Schrodinger equation. I could not accept it as it was presented to me. I spent hours on end trying to derive it logically from more secure foundations. I was also fascinated by its solutions, particularly its almost magical ability to derive the spectra of atoms. It became the model to be emulated elsewhere as well. In particular, I began envisaging the possibility of finding a Schrodinger-like equation that would logically produce the spectrum of the known fundamental particles *à la* the spectra of atoms with regard to the Schrodinger equation. I entertained this false hope, but failed to achieve anything in this regard.

However, this led me to realize that at the bottom of this laborious attempt was the naïve belief that physical theory was basically an axiomatic structure just like geometry—that is, that physical theory could be reduced to a limited set of self-evident axioms. I soon realized that was an illusion, but it drew me towards a deeper study of physical theories, their logic, ground, interconnections, principles of development and contradictions. This has proved to be a lasting research concern. Meanwhile I continued to work on my Ph.D. thesis, which was titled "Wigner's Formulation of Quantum Mechanics and Local Transport

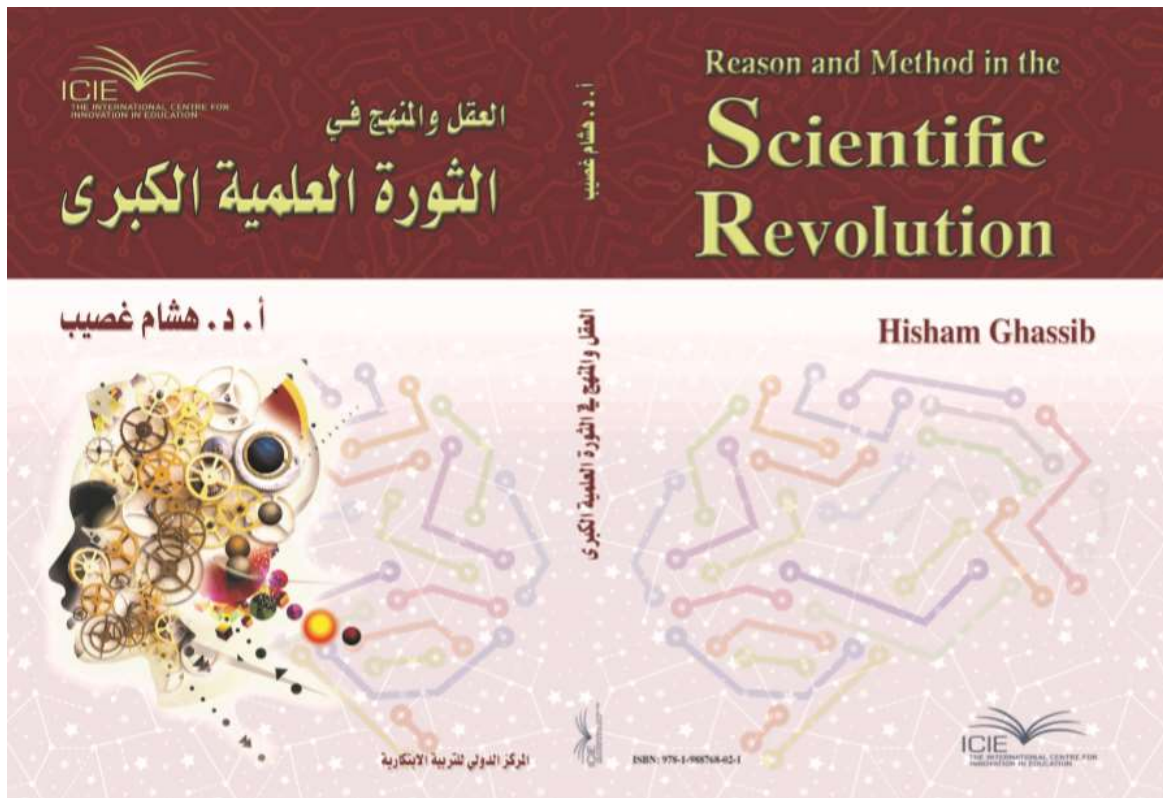
Theory". In this work, I encountered the essential non-local character of quantum mechanics, which was baffling and remained to be baffling.

In that period of my life, a number of self-discoveries occurred which put me on the road to recovery from my spiritual malaise. The first self-discovery was the discovery of the I as a complex structured entity. Prior to this self-discovery, my ontological picture of the world was basically a pure empty impersonal consciousness, almost a Sartrean *en soi*, confronting a chaotic pile of sense impressions and passions. However, I soon realized that, contrary to empiricism, structures and processes are at least as real and immediate as sense impressions, if not more. This led me to the realization that consciousness is a structured entity that constitutes itself as an I, confronting a world of structured things and processes.

My second self-discovery was discovering what it means to be a human being. Prior to this self-discovery, I was victim of a Messianic view of human beings,

whereby a human being was a pure tortured soul seeking divine salvation. Even after transcending and renouncing religion, this Messianic view continued to inform my subconscious mind. This manifested itself in belittling needs and their satisfaction. Needs were considered a hurdle to be overcome and suppressed. They were viewed as a problem to be overcome via spiritual practices. My second self-discovery concerned needs in particular. It asserted the body and its needs and helped me to realize that the essence of living was needs and the practices associated with satisfying them. The development of human potentialities emanates from these practices. These potentialities unfold via needs and the practices that aim at satisfying them. Humans acquire their creative and productive powers via this system of needs and practices. Thus, that self-discovery affirmed concrete life, activity, needs and the human body as a specific biological system. It was no longer a pure tortured soul awaiting supernatural salvation. This new conception was mainly Marxian, but partly Nietzschean.

My third self-discovery was the discovery of the truth of historical materialism as



opposed to so-called bourgeois philosophy. At that time, I was feeling very acutely the inanity of British analytical philosophy in all its forms, including empiricism and linguistic philosophy. I was also feeling disgusted with Schopenhauer's pessimism and Nietzsche's euphoric, but basically nihilistic, affirmation of what he called life. I felt that conventional bourgeois philosophy had reached a cul-de-sac. It had failed to offer an alternative to religion and the Messianic discourse. Intellectually speaking, it had landed me into a suicidal state of mind. At that time, I started reading Husserl's "Ideas". However, what attracted my attention in Husserl's book was not its main text, which I found rather conventional, but a Hegelian quotation with which he commenced his work. This glimpse into the Hegelian tradition was a veritable transforming revelation. It brought me face to face with a new and different spirituality, free from the sticky morbidity of conventional philosophy. In particular, it brought me face to face with social revolution as a redeeming social act. I immediately realized that it constituted the alternative I was looking for. It reinstated a new meaning in the fabric of my life. It offered me a potent reason for living a meaningful life. I felt my intellect liberated from the burden of angst and morbid skepticism. This self-discovery opened a window onto the whole Hegelian landscape.



Following this new intellectual experience, I started reading a book titled "Marxism and Christianity" by Alasdair MacIntyre. Each of its chapters was headed with a quotation by Marx or Engels. I was truly overwhelmed by the new spirituality I encountered in their thought. The revolutionary spirit I had found in Hegel was magnified tenfold in Marx and Engels. This intense feeling was consolidated and affirmed by reading Georg Lukacs' book, "History and Class Consciousness", which was throbbing with revolutionary rhythm, and Marx's early work, "On the Jewish Question", which related this new experience to the main tradition of Western philosophy, and which liberated my mind from the stereotypical false bourgeois image of Marx. The road was now wide open to delve into the heart of the Marxist tradition. I was beginning to find in this self-discovery the key to unlocking the real concrete meaning of life and society. At that time, I wrote a paper in English which purported to find Marx latent in Husserl, and to try to

prove that the contradictions of Husserlian phenomenology would necessarily lead to Marx. In a sense, I was trying to prove that the truth of phenomenology, in the Hegelian sense, was Marxism.

However, by the end of this intellectual journey, I felt utterly exhausted—culturally and spiritually exhausted. Also, even though my intellect was Marxist and ready to delve into class and ideological struggle, my soul was still utterly nihilistic and, in a sense, existentialist. A Marxist intellect coupled to an existentialist soul! That was indeed a volcanic explosive combination. I realized that I was incapable of reformulating my life in conformity with my self-discoveries. So, I set myself the lesser goal of proclaiming to the world and proving that historical materialism was the truth of the whole of the philosophical endeavor, particularly, of classical German philosophy and of Husserlian phenomenology. I decided to dedicate my entire life to implementing this

project both theoretically and practically. I was even hoping to find a marginal research institute, whereby I would spend my entire life studying Husserl for the purpose of proving that Marx was the dialectical truth of Husserl. However, that was not to be. So, I decided to come back to Jordan, even though I was offered a post-doctoral post in theoretical physics in Zurich. I went back to Jordan with a heavy heart, culturally and spiritually exhausted.

My fourth self-discovery was discovering what it means to be a non-European in a European environment. When I came to Britain, I was impregnated with Nasserian pan-Arabism and a romantic abstract notion of my identity as an Arab. However, my angst and nihilism soon destroyed this notion, and led me eventually to a concrete socio-historical realization of what it meant to be an Arab in the modern age and in a Western context. I realized that what constituted my national identity was not my imagined picture of past national glories, but my nation's position in the contemporary international arena and in the international division of labour. I recognized the notions of imperialism and structural dependency. I soon related my philosophical

experiences, my angst and my nihilism to the fact that I belonged to a fragmented, underdeveloped and dependent nation under the tutelage of the world market. That deepened and concretized my Marxism and motivated me to read dependency theory proponents, such as Samir Amin and Andre Gunder Franck. It was to prepare me for active political engagement.

The fifth self-discovery was the discovery of social relations and the fact that an individual is socially constituted. In this, I was guided by Marx's remarkable work, "Theses on Feuerbach", where Marx defines man as the totality of his social relations.

I decided to go back to Jordan. I felt at that time that it was too late for personal happiness, despite my self-discoveries. I renounced the quest for personal happiness and replaced it with the quest for truth. That determined the goal I set out to fulfill. Hitherto, my goal has become to prove philosophically the truth of Marxism, to perfect its employment as a tool of understanding, to solve its philosophical problems and to raise Arab consciousness to the level of revolutionary scientific rationality.

Having obtained my Ph.D. in theoretical physics, I returned to Jordan, my birthplace. Right from the start, I could feel the intellectually and politically suffocating atmosphere in Jordan, epitomized by the imposition of martial law and emergency laws. Besides, I found before me a nakedly commercialized society, which robbed society of its tribal innocence. What exacerbated the situation was my pervasive feeling of spiritual fatigue and contradiction between a Marxist intellect and an existentialist heart. The challenges I was faced with at that time were multifaceted. First, I wanted to find employment in a place where I would have the freedom to come to terms with my dilemma and settle accounts with my self. The place, which I found congenial to my state of mind, was the Royal Scientific Society, which was the only applied research institute in Jordan. This place gave me the freedom to choose my own projects and to practice writing, which has proven to be a necessary form of therapy throughout my life. Writing became a form of cathartic practice designed to purify my heart from the spiritual fatigue and angst that afflicted it. At that time, I tried to understand my own dilemma, as well as the cultural dilemma of modern Europe, in terms of the character of Faust, and I traced the development of this character from its medieval origins to Christopher Marlow to Goethe to Gustav Mahler to Thomas Mann, and I convinced myself that Faust was the spiritual image, using Husserl's term, of modern Europe. I also started viewing myself as a Faustian being struggling fiercely with his internal contradictions. This was reflected in a drama I wrote at that time in Arabic, which bore the

title “Götterdämmerung”, or “The Twilight of the Gods”. In a previous drama, which I had written in England in English, I had started to view myself as a battleground between Faust and a character struggling to transcend Faust, whom I had called Metafaustus.

Right from the start, I established at the Royal Scientific Society a new department concerned with science popularization and scientific culture. I was convinced that what was missing in the contemporary Arab world was scientific thought and rationality. Thus, the aim of the new department was to develop new modes of linguistic expression in Arabic capable of accommodating scientific thought and rationality. Our aim was to reveal the grandeur of science, its principal ideas in a precise form, and the rationality and logic of scientific enquiry, and to combat pre-scientific irrationality in modern Arab societies. We wanted to contribute towards a cultural revolution that would modernize Arab culture and consciousness. We implemented a program of publishing scientific texts in Arabic at all levels, starting with children and ending with researchers. I learnt how to edit these texts and refine their modes of expression, and I also wrote a number of physics books in Arabic focusing on the foundations of physical theories, their structures, grounds and scientific contents. This science popularization project soon went beyond the Royal Scientific Society, and initiated a whole cultural movement in Jordan, in which a number of intellectuals distinguished themselves, one of whom was my friend, Professor Taisir Subhi Yamin, who made seminal contributions in this field.

In parallel with this activity, I set myself the goal of deepening my understanding of the nature of science, and scientific revolutions. This led me to delve deeper into the history and philosophy of science. In particular, I wanted to deepen my understanding of physical theories, their interconnections with each other, their scientificity, their ontological connections with material reality, the logic of their development, and their philosophical grounds. This has proven to be a lasting research project of mine.

Concurrently with all that, I set myself the goal of deepening my Marxism, first by delving deeply into the philosophical grounds of Marxism. That drove me towards reading Marxist philosophers like Lukacs, Korsch, Adorno, Marcuse, Gramsci, Althusser, Galvano Della Volpe, Lucio Colletti, Sebastiano Timpanaro, Roy Bhaskar and the English analytical Marxists and dialectical realists. Secondly, I wanted to deepen my understanding of Marxism by analyzing Jordanian and Arab reality in Marxian terms. Above all, I wanted to understand superstructural and cultural levels and phenomena in Marxian



terms. I wanted to construct theories of science, philosophy, literature and other cultural realities within the Marxian perspective.

In parallel with all that, I set myself the ambitious goal of critiquing both Western philosophy and modern Arab thought, and, in fact, I wrote a whole book critiquing the Moroccan philosopher, Muhammad Abed Al-Jabiri. However, starting with 1985, four significant events occurred—namely, Gorbachov's ascension to power in the Soviet Union in 1985, his, and the Communist Movement's, turn towards liberal ideology starting with 1987, the April Insurrection in Jordan in 1989 and the collapse of the Soviet Union in 1991. Those events left a deep impact on my mind and swerved my intellectual project in new directions to deal with the problems created by that turn of events. Those events prompted me : first, to develop new arguments in support of classical Marxism, particularly its humanistic and scientific core. I sought to understand what constituted the essence of being scientific and what distinguished science from non-science, and, hence, to prove that Marxism was a science. I also wanted to show the revolutionary specificity of Marxian science as opposed to natural science. Second, I mounted a critical campaign against liberalized communism, which I called the communism of post-collapse. I tried to show that it was a mere expression of ideological fatigue and defeat, and that it was devoid of any epistemological and philosophical value, compared to classical Marxism. Third, I felt the need to delve deeper into the meaning of the concept of democracy, particularly in view of the democratic changes that occurred as a consequence of the April Insurrection in Jordan in 1989. Fourth, I embarked on developing new theories on scientific revolutions, the social production of knowledge, the meaning of ideology, the relationship between ideology and science and the socio-cultural bases of scientific production. Fifth, I embarked on studying the development of secular philosophy and modern rationalism in Europe, culminating

in Marxian dialectical materialist rationalism. I tried to show the contradictions of bourgeois secular thought, and how they were resolved by Marxism. I also felt the need to delve deeply into the concept of dialectic, and to show its interconnections with science, including scientific revolutions. I also tried to translate my ideas into political practice, but failed in this endeavor.

In 1991, the Royal Scientific Society decided to start a university college for technology offering a B.Sc. in computer science. I was seconded by the Society to the college, which was called the Princess Sumaya University College for Technology, to assist in foundational administrative work as well as teaching relevant subjects. I was faced with a number of challenges, both administrative and academic. The first challenge was to adapt the regulations and bylaws of the Royal Scientific Society to the workings of the newly established university college. The college was understood to be a continuation, as well as some sort of an inheritor, of the society. Our administrative experience in the society proved to be invaluable to the fledgling college. The second challenge was to design and implement a system of faculty employment that would ensure excellence in teaching and research. That was a difficult task to fulfill in a country like Jordan, where tribal and family connections were overwhelming and dwarfed objective institutional norms and criteria. The third challenge was the limited budget we had at our disposal. That necessitated a strict financial management, a strict rationing of resources, a strict specification of priorities and a slow, but sure, pace of development. Unlike the top management of the Royal Scientific Society, I realized the necessity of expansion, but I also realized that it must be a slow, studied and steady expansion. The fourth challenge was related to research. My work in science

popularization required conducting research work in physics, the nature and grounds of physical theory, the history and philosophy of science, the nature of scientific revolutions and the social production of knowledge. The challenge was to transform this research work into research papers publishable in peer-reviewed journals. My success in this endeavor ensured my academic promotion, and by 1999, I earned my full professorship. The fifth challenge was related to students' lives. Jordanian universities have suffered for a number of decades from tribalism related violence among university students. Thus, the challenge was to organize student university life on rational principles that would ensure harmony and peace among students. We have come to the conclusion that the key ingredients needed to achieve that are: free elections to students organs and bodies,

disciplined democracy on campus, non-interference from administration in the students' electoral process, and absolute fairness in dealing with students' affairs.

In 2002, we succeeded in changing the name of the college to The Princess Sumaya University for Technology, and I was appointed its first, founding president of the university. We set out to establish new schools and departments, to specify the regulations and bylaws of the university, to organize research work at the university, to establish academic links with internationally recognized universities, to prepare master plans for the development of the university at all levels, including campus expansion and establishing post-graduate programs, to organize and foster extracurricular activities, and to satisfy local and international accreditation and quality assurance norms.

I was to remain president of the university until the summer of 2010, after which I was to resume my academic work as a full professor at the university. During my presidency, I continued my research and intellectual work, but at a relatively slow pace. Following the summer of 2010, I continued my scientific and philosophical work at a more rapid pace. My work continued to revolve around knowledge production, the nature of scientific theory, the history and philosophy of physics, reason and method in physics and the philosophical grounds of Marxism.

Currently, I am working on the problem of causality in physics, reason and method in Bohr and Heisenberg, reason and method in Arabic science, the interpretation of quantum mechanics, and the development of Marxian philosophy in relation to Hegel. I am also trying to utilize visual digital methods in propagating science and philosophy popularization via lectures and lecture courses. Public lectures are still the best vehicles for propagating my intellectual endeavors. Thus, my intellectual struggle continues, hopefully for a while.