

13th Annual Historical Materialism Conference: Limits, Barriers and Border,
SOAS, London, 9-13 November 2016.

Final version 19-11-2016

Science: model, icon, and the subjective factor

Joost Kircz

International Institute for Research and Education, Amsterdam. (www.iire.org)

joostk@iire.org

Private website www.kra.nl

Today, I want to discuss the tensions between so-called scientific socialism and the subjective factor. In another presentation in this Conference, I deal in more detail with the complicated notion of 'science' in a Marxist context. A minimum definition of a science is a theoretical structure that coherently describes how and why things happen and on top of that can predict what will happen next. Now, I want to confront two world famous natural scientists, their ideas of science as a pillar of socialist wisdom and forecasting, and their approach to the subjective factor. Both are important players in the socialist movement, but with a complete antagonistic political outlook. It turns out that given their common scientific outlook, they both neglect the subjective factor in the workers struggle for socialism.

The first subject is Anton Pannekoek (1873-1960), a world renowned Dutch astronomer. Pannekoek was born into a petty bourgeois atheist family. Already on an early age he developed a keen interest in astronomy and joined the Social Democratic Workers Party (SDAP) in 1899.¹ Pannekoek became an important socialist teacher, journalist, and Marxist theoretician in the pre-WWI Social Democratic movement. He broke with parliamentarism already in 1910, before the Great War and became the most important architect of Council Communism.² In 1921 he more or less left active politics and devoted almost all his time to astronomy, though he kept writing theoretical and historical works with a Marxian outlook.

The second subject is John Desmond Bernal (1901-1971), born into a mixed catholic (father) /protestant (mother) well to do family. Bernal was a brilliant polymath, who became world famous as a crystallographer. Contrary to Pannekoek, Bernal was an ebullient man of the world with a creative love life.³ Bernal was one to the young social active Cambridge intellectuals who were set

¹ B.A. Sijes, 'Anton Pannekoek, 1873-190, In: Anton Pannekoek, *Herinneringen*, Van Gennep, 1982. John Gerber, *Anton Pannekoek and the socialism of workers' self-emancipation. 1873- 1960*, Kluwer Ac. Publ, and IISH, 1989.

Marinus Antonius M. Boekelman, *The development of the social and political thoughts of Anton Pannekoek, 1873-1960: From social democracy to council communism*, PhD Thesis, Dept. Of Pol. Economy, University of Toronto, 1980, unpublished.

A more hagiographic account is given by: Cajo Brendel, *Anton Pannekoek theoretikus van het socialisme*, Sun, 1970.

² Hans Manfred Bock, *Syndikalismus und Linkskommunismus von 1918 - 1923*. Marburger Abhandlungen zur Politischen Wissenschaft, band 13. Verlag Anton Hain, 1969.

³ There are many books on Bernal. Most noteworthy are:

Maurice Goldsmith, *Sage, A life of J. D. Bernal*, Hutchinton, 1980, (Sage was the nickname of Bernal).

Brenda Swann and Francis Aprahamian (eds.), *J.D. Bernal, a life in science and politics*. Verso, 1999.

on fire after the famous 1931 London Conference on the History of Science, where unexpectedly an important Soviet delegation under the leadership of Bukharin stole the show.⁴ Whilst Pannekoek is a product of the early socialist movement, Bernal is a child of the time that defending the Soviet Union became a political focus for many communists. Bernal became, and stayed his whole life an ardent defender of the Soviet Union.

The issue at stake is the tension between the so-called objective role of the proletariat as saviour of humanity and the role of the individual socialist, in particular the socialist intellectual. Although the political outlook of both natural scientists and their roles in building the socialist movement was completely contradictory, they both share a firm conviction in the prophetic value of Historical Materialism as a scientific truism for the coming socialist revolution.

The first step, in discussing the issue, is the place and role of the intellectual in the labour movement. The early socialist organisations knew a strong workerism. In 1899, the famous Dutch poet and socialist Henriette Roland Holst, following Karl Kautsky, deals in the theoretical journal *De Nieuwe Tijd* with the issue of the “middel layer” (midden schicht) and the historical necessity that the intellectuals will join the proletariat. She emphasises the importance of party membership of intellectuals: “with the deed of the socialist joining together, all the class differences will be erased”.⁵ Roland Holst, as well as Herman Gorter, also an important poet, are then already in the editorial board of *De Nieuwe Tijd*. Pannekoek will soon become a regular and important contributor. With the very low literacy of the working class, education was a key issue in the socialist movement throughout the world; consequently the party intellectuals played an essential role. This educational work not only entailed the general enlightenment of the workers, but most and for all the teaching of the socialist credo: that the emancipation of humanity is the historical destiny of the working class. In the spiral of successive class-based social formations, the final stage shall be the proletarian revolution in which the vast majority of humanity will self-emancipate itself, and there with all of humanity, in a new social formation: socialism.

This teaching is based on a firm conviction that the historical materialistic approach of social development is a stable science, founded by Marx and Engels.

Against utopianism, the social science of Marxism is considered a rock solid foundation for political organisation and action with a clear final stage. Pannekoek was a strong advocate of the works of German philosopher and socialist Joseph Dietzgen. This is not the place to dwell in detail into Dietzgen’s ideas. Sufficient is to quote a few sentences of Pannekoek from his introduction to a collection of Dietzgen’s essays.⁶ Pannekoek states: “Marx has disclosed the nature of the social process of production,But he has not fully explained, by what means the nature of the human mind is involved in this material process...This shortcoming of Marxism is cured by Dietzgen, who made the nature of the human mind the special object of his investigations”.

According to Pannekoek: “Dietzgen had created the basis for a dialectic and materialistic theory of understanding”. And: “It is the merit of Dietzgen to have raised philosophy to the position of a natural science, the same Marx did with history”. Because “matter... means everything which exists and furnishes material for thought, including thoughts and imagination”, a unity of matter and mind

Andrew Brown, *J.D. Bernal: The sage of science*, Oxford UP, 2005. On page 479, the row with Goldsmith about the exact role of Bernal on D-day 1944 is dealt with.

⁴ Gary Wersky, *The visible college. A collective biography of British scientists and socialists of the 1930s*. Free Association Books, 1988.

⁵ H.R.H, ‘De “Intellektueelen en de Arbeiders-partij’’, *De Nieuwe Tijd*, Vol.3 Nr.11, 1899, pp. 581-587.

⁶ Anton Pannekoek, ‘The position and significance of J. Dietzgen’s philosophical works’, in: *J. Dietzgen, The positive outcome of philosophy*, Kerr, 1906.

has been established, consequently all riddles of the world (Welträtsel) can be solved by dialectic materialism. He goes on with: "...but solves them in so far as it deprives them of the character of a mysterious enigma and transforms them into a practical problem, the solution of which we are approaching by infinite progression". "Proletarian philosophy, in solving the riddle of the human mind, gives us the assurance that there are no insoluble riddles before us".

Interesting is the ongoing discussion on Ernst Mach in *Die Neue Zeit*. Here, Pannekoek makes clear that, though Ernst Mach and Josef Dietzgen have much in common. According to him, Mach is only dealing with natural science, whilst Dietzgen, as socialist philosopher, is mainly important for his theory about the mind.⁷ Already here Pannekoek is critical on Russian scientists who seem to consider Machism as proletarian science.⁸ In his 1938 critique on Lenin, he repeats this critique on the Russian Machists, without naming people, such as Bogdanov.⁹

Obviously, the whole idea of Marxism as a natural science is firmly vested in the 19th century successes of the natural sciences and of technology. Historical empirical research reveals the laws of motion of society and on that waves the working class is the agent for abolishing the capitalist way of production and replace it with novel - collective - production processes. Pannekoek not only makes "science" a universal icon, but also decrees that proletarian science will asymptotically reach a complete knowledge of nature, including humankind.

Not only is this thinking devoid from any dialectics after a socialist revolution, it also is clearly in line with the sensory experimental notions of Ernst Mach's positivism.

Most remarkably, Pannekoek's thinking remained unshakably stable, like planetary motion, for the rest of his life. Humankind is following a torturous path, but whatever happens, the development of the productive forces will, with law like certainly, results in a proletarian revolution.

It is here that we see the two aspects of the subjective factor. On the one side we have the working class, with its historical mission that has to be awakening and then it's self-emancipate. On the other hand, we have the intellectual teacher who serves as facilitator, analyst and alarm clock. Or as Pannekoek writes in the weekly *The Alarm Clock*: "The future belongs to the workers, but most of them do not know it yet. To them we want to teach socialism to deliver them from stupor, and indifference and despondency; to fight for a beautiful future, or liberation from misery and need".¹⁰

Here we see the two central aspects of Pannekoek's approach to the subjective factor for the workers class. Firstly, the issue of the innate 'spiritual power' of the proletarian, in other words: "The spiritual element of social labour and human existence"¹¹, and secondly the subjective factor of the intellectual educator in solidarity with the proletarian self-emancipation in establishing a socialist revolution.

It looks like the subjective factor is an objective given. Pannekoek sees himself not as a political activist but solely as explicator. In a letter to Kautsky he writes: "My nature is not that of a fighter...I tend to be more like a schoolteacher; being in the political arena is not my vocation, I prefer to teach, learn, explain and enlighten wherever they want to hear me".¹²

⁷ Ant. Pannekoek, 'Dietzgens Werk' *Die Neue Zeit*, 31.Jahrgang, 2. Band, Nr. 28, 1913, pp. 37- 47.

⁸ Idem. p. 42.

⁹ John Harper (Anton Pannekoek). Lenin als Philosoph. Kritische Betrachtung der philosophischen Grundlagen des Leninismus, Gruppe Internationaler Kommunisten in Holland, 1938. The first English translation was published by New Essays in New York in 1948.

¹⁰ Pannekoek, 'Wat wij willen' (what we want) , *De Wekker*, 20 dec. 1902, p.5. Cited in Boekelman, p. 67.

¹¹ Anton Pannekoek, *Ethiek en socialisme.*, Leidsche Uitgevers-Maatschappij, 1907, p. 15. (transl. by Boekelman).

¹² Letter to Karl Kautsky ,~1904, Kautsky Archive KD XVIII, 370, IISH , Cited by Boekelman, p. 101.

His whole life, in particular after he established himself as academic astronomer in the early 1920's, he never was more than a kibitzer of, and never a player in the political arena. This fact is nicely illustrated by a quotation of Henk Canne Meijer, one of the central figures in the council communist movement as from the 1930's. "Pannekoek is a 'pure theoretician, he is not a fighter in our sense. He offers analyses and conclusions, but doesn't attempt to carry them out. He won't participate in the organisational life because he "doesn't have enough time". [...] He provides his analyses and we fight it out about what it means. He is an extraordinary modest man without the slightest trace of self-conceit, but he won't take a position on anything he is not absolutely certain about. For this reasons, we often think: 'Pannekoek says it, so it must be true, but is it indeed really true?' But praxis involves decisions about which one can never be entirely certain. This is the real difference between a 'pure theoretician' and a fighter".¹³ Obviously, Pannekoek riposted that his writings were "part of those forces, by which the material world transforms the mind of the workers".¹⁴ Hence, Marxism, the science of society, teaches us that the innate subjective factor to reach socialism is a given for the working class. Whilst by the unity of mind and matter, the subjective factor of the intellectual theoretician is in co-defining the environment in which the worker awakes and understands her historical destiny.

Pannekoek considered the Soviet Union as a necessary and positive bourgeois revolution and state that by the low level of the development of the productive forces "... it is clear that Lenin's Marxism, as determined by the special Russian attitude toward capitalism, must be fundamentally different from the real Marxism growing as their basic view in the workers of the countries of big capitalism".¹⁵

And hence, although Lenin did a good job in forcing a bourgeois revolution, the Soviet Union stuck to a new system of state capitalism. Most pertinent he states: "There is a widespread opinion that the Bolshevik party was Marxist, and that it was only for practical reasons that Lenin, the great scholar and leader of Marxism, gave to the revolution another direction than what Western workers called communism – thereby showing his realistic Marxian insight. The critical opposition to the Russian and C.P. politics tries indeed to oppose the despotic practice of the present Russian government – termed Stalinism – to the "true" Marxist principles of Lenin and old bolshevism. Wrongly so. Not only because in practice these politics were inaugurated already by Lenin. But also because the alleged Marxism of Lenin and the Bolshevik party is nothing but a legend. Lenin never knew real Marxism. Whence should he have taken it? Capitalism he knew only as colonial capitalism; social revolution he knew only as the annihilation of big land ownership and Czarist despotism."

A fine statement about the absolute social-historical roots of a person's thinking as a confinement of the subjective factor.

So let us proceed to our second subject, Desmond Bernal. Like Pannekoek, an excellent essayist and world renowned scientists. But, Bernal is the exponent of the new generation that felt in love with the Soviet Union and Bernal was a child of the most advanced capitalist nation. By the same reasoning of Pannekoek, he must have known better, when he kept defending Stalinism in all its aspects.

Here, we see nice conflation of principles. For both, Pannekoek and Bernal, Marxism was a rock solid science, only their application of this science is completely contradictory.

¹³ Canne Meijer to Paul Mattick 13 April 1935. Canne Meijer Archives, IISH, cited by Gerber, p. 169.

¹⁴ Pannekoek to Mattick, February 2 1936 Pannekoek Archives nr 108, IISH. Cited by Gerber , p.169.

¹⁵ John Harper (Anton Pannekoek). *Lenin als Philosoph*. Op. Cit.

Where the theoretician Pannekoek took Marxism as the doctrine that forecast the necessary and unavoidable self-emancipation of the working class, Bernal, as an experimental scientist, took the role of science & technology in society as the driving force for societal change.

Pannekoek takes in all his works the historical trajectory of science & technology, almost mono-causal, as the red thread towards the socialist goal. Bernal, following the teachings of the 1931 congress, dived much deeper in the history of science and technology¹⁶ to prove the firm formative link between science, technology and social development. For Bernal this meant that also the composition of the working class is changing and for that reason he spends colossal energy in organizing scientists and laboratory personnel in trade-unions. His book *The social function of science*,¹⁷ is a founding text for the field of sociology of science, and is still a prime example of experimental research into the subject.

Where Bernal, contrary to Pannekoek, sees an important subjective role for the most advanced educated wage owners in building socialism, both antagonistic scientists consider the unavoidable development towards socialism as a given.

A final word on both their pledges to the sacred texts.

In Pannekoek's active political years in Holland and Germany, a limited number of original texts written by Marx & Engels were available. Only in the late 20's, early 30's a major effort was undertaken to publish the collective works. Pannekoek never referred to them in his later works. For him the principles were clear and, as a good mathematician, that is sufficient to plough on.

A most remarkable side line is that Pannekoek even never dealt with the so-called crisis in physics with the advent of quantum mechanics and relativity theory, with their vast and penetrating consequences for the philosophical foundations of science and therewith the notion of science itself. As an astronomer, he belonged to the first league of users of both these novel approaches to nature. In his popular and excellent *De groei van ons wereldbeeld* (The history of astronomy)¹⁸, which was even also published in Russian, he treats relativity theory as just a step further in a linear development of science.

Bernal, on the other hand, devoured all what he could get and uses it to prove his worldview. In *Marx and Science* he uses Marx' *Economic and Political manuscripts (1844)* to emphasis the essential role of science and technology in industry and that: "what really happens in de Soviet Union and the new Democracies is that science is applied to the solution of problems arising out of the general economic plan"¹⁹. According to Bernal, Marx and Engels²⁰ are the founders of the notion that science and technology are the pre-eminent ingredients of building socialism. All his life he remained on the tracks Bukharin laid out in 1931, and the subsequent implementations in the Stalinist SU. The subjective factor of the working class as political agent for change is hardly visible anymore.

Concluding, we can say that by taking Marxism as a final monist theory for human understanding, both Pannekoek, as representative of council communism, and Bernal, as representative of Stalinism, only pay lip services to the core Marxist's notion that people's consciousness, and its dynamics, is a product of their social-historical situation. It sounds as if the interactions between

¹⁶ J. D. Bernal *Science in History*, C.A. Watts & Co. Ltd, 1964.

¹⁷ J. D. Bernal, *The social function of science*, George Routledge & sons Ltd., 1930.

¹⁸ A. Pannekoek, *De groei van ons wereldbeeld; een geschiedenis van de sterrekunde*, Wereld- Bibliotheek, 1961. English version 1961, Russian version 1966.

¹⁹ J. D. Bernal, *Marx and science*, International Publishers, 1952, p.43.

²⁰ J. D. Bernal, *Engels and Science*, *Labour Monthly Pamphlets no. 6*, ~1935.

the level of production, the social-economic situation, the level of education and self-organization, etc., etc., are more or less stable parameters during the phase of the capital mode of production, only to be changed after a socialist revolution. Science is seen as an edifice that can be understood as a more or less stable human endeavour. The research directions are socially determined, and so are its applications. But after this has been said, it remains totally unclear how and why research directions are co-defining society.²¹

The subjective factor of the working class, including science workers, are no part of the equation, such as the nagging question why workers vote for social-democrats or even fascists (and now Donald Trump).

Another remarkable agreement between the two is their relation to the state. Bernal became an important advisor for governmental science politics and an advisor to Lord Mountbatten during D-day.²² Pannekoek writes in his memoirs that when in 1926 he was appointed as a member of an astronomical expedition to Sumatra, he was told that he would allow entry to the Dutch colony only if he promised to abstain from any communist agitation or attempts to make contact with Indonesian radicals. Offended he writes: "I told [the civil servant] that it goes without saying that if I was sent out with a scientific purpose by the government, then, following the elementary rules of decency, I would refrain from actions against the government over there". Clearly the civil servant was "no gentleman".²³

So far for the neutrality of iconic positive science and the subjective factor.

In this presentation I tried to point to the important issue that if science, as we presently know it, is taken as the standard for all human thinking and conscious acting, both political antagonistic heroes, Pannekoek and Bernal, do have more in common than they realised themselves.

²¹ J.D. Bernal, 'Dialectical materialism and modern science'. *Science and Society*, Vol.2, no 1, winter 1937.

²² Andrew Brown, chapter 12.

²³ Anton Pannekoek, *Herinneringen*, p. 212.