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Words Jim Schofield
Design Mick Schofield

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Bild Art
11a Woodlands Road, Lepton
West Yorkshire. HD8 0HX UK

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**The Jigsaw:
A Conspectus of Pete Mason's
Quantum Mechanics and Dialectical
Materialism**

Special Issue 11

1. Editorial
2. Introduction to The Marxist Apologists for Copenhagen
3. The Marxist Apologists for Copenhagen
4. Introduction to Notes on Marxism, Materialism and Particle Physics
5. Notes on Marxism, Materialism and Particle Physics

Editorial

Pete Mason's Marxism

Welcome to the 11th Special Issue of the **SHAPE Journal**.

This issue constitutes a conspectus/review of a paper by Pete Mason on the Socialist World website entitled: *Quantum Mechanics and Dialectical Materialism (Marxism Materialism and Particle Physics)*, published on Boxing Day 2010.

It is advised that the reader should take time to study the original paper before reading this issue for a more complete understanding of what is being discussed. Pete Mason's article can be found [here](#).

Two approaches are taken to the task. The first paper entitled *The Marxist Apologists for Copenhagen* is a direct response to Mason's paper from a contending Marxist position; namely that Marxism and the Copenhagen Interpretation of Quantum Theory are diametrically opposed, philosophically.

The second paper, *Notes on "Marxism, Materialism and Particle Physics"*, goes in to more detail and is a point-by-point critique of Mason's paper, undertaken to reveal the inherent weaknesses in the original argument.

These are vitally important to elucidate as Marxism *should*, in fact, be the study of Qualitative Change, something modern physicists have long abandoned. To adopt their pragmatic and statistical approaches to understanding and to embrace the "discoveries" of quantum physics as gospel, is to abandon Dialectical Materialism entirely for Idealism.

Jim Schofield July 2012

The "Marxist" Apologists for Copenhagen Introduction

This paper was written after reading Peter Mason's article, without constant reference to the details of his submission.

It is a response from a contending Marxist position, and as such it has more to say on defining its own alternative, than doing detailed justice to Mason's standpoint.

Suffice it to say that the two alternatives involved were not merely close relatives with just a few outstanding differences. They are indeed entirely different and opposing positions, with almost NO significant philosophical agreements.

Mason is, in fact, a major critic of Marxism, and not as he would certainly insist, a major improver of it. Indeed, he spends the whole piece explaining why the sub atomic physicists (of what are usually called the Copenhagen School) are "right", while the Marxists of the "old" kind are most certainly "wrong".

He is most certainly a reviser of Marxism from the standpoint of Sub Atomic Physics via its currently dominant Copenhagen supporters.

Now, such an important attack must never be treated with an academic even-handed account, and it certainly isn't here. The replacing content is too different and way "off beam" for that.

It is, therefore, quite rightly highly polemical against this "opponent from without", but actually from "well without". But, of course, the uncommitted readers may insist that he or she wants to make up their own mind, and would therefore require a full account.

So, the best that I could do with this piece of work would be a blow-by-blow treatment, and therefore, that is also available as a companion paper plus, of course, details of where to find [Peter Mason's original paper](#).

The “Marxist” Apologists for Copenhagen

How the inheritors of Marx found something better

These notes were written after reading Peter Mason’s article, without constant reference to the details of his submission. A more detailed critique can be found later in this issue.

Mason’s Correcting of Marxism with Sub Atomic Physics

What a revelation!

I have just finished my first reading of the piece on Quantum Mechanics and Dialectical Materialism by Pete Mason of the Socialist Party, which I presume was written in 2010. That author professes to be a Marxist, and presents this support of what he insists on calling Quantum Mechanics, as being “more true” than any of its antecedents, including the now “clearly *passé*” ideas of Marx, Engels, Lenin and Trotsky in their reaction to the Science of their day.

He actually affirms that a true Dialectical Materialist must embrace the “discoveries” of Quantum Mechanics (which are, of course, no such thing), including those of Entanglement and probabilistic concepts of things previously considered very differently.

Experiments & Equations Alone are not Theory: The “Farming” of Reality

He also asserts that to condemn this new(?) scientific viewpoint is reactionary and determinedly blind to what has been “proved by Experiment”. But without going into it here in great detail, it must be pointed out that experiments are not totally objective: they do not necessarily or immediately reveal The Truth! Indeed, in order to extract anything from Reality (which is naturally opaque and holistic, and hence comprised of many different and mutually affecting elements that often compete and contend, as well as occasionally co-operate), Mankind had to constrain a chosen locality of interest, and modify its content dramatically to ever more clearly display regularities that could be seen clearly enough to be measured.

Indeed, they “farmed” Reality in order to elicit comprehensible “Parts” of it, which could then be used dependably in their defined Domains of Applicability.

Indeed, Farming or Horticulture is a good analogue, because what is delivered is certainly not what happens in

Reality, when left entirely to itself. But Mason does not explain why the seeming impossibilities of this Copenhagen approach occur. He, in fact, explains Nothing!

The Retreat that is Copenhagen (And Resonances with the Revisionists)

Now, I am a physicist, and since my undergraduate days many years ago, I have been a steadfast opponent of the Copenhagen Interpretation of Quantum Theory (a more accurate title than Quantum Mechanics, which is in fact a pragmatic methodology and certainly not a Theory). And I was a steadfast opponent even before I also became a Marxist, and surprisingly found myself arguing against my Marxist colleagues from the outset for similar reasons to why I opposed Copenhagen: the reasons were philosophical on both fronts. For I arrived at a Marxist position by reading Marx, Engels and Lenin, and was not actively recruited by the Communist Party, which I actually sought out to learn more. I didn’t remain long in that clearly non-marxist organisation!

But let us be clear, before we go any further, the pragmatic methodology of Quantum Mechanics is, like all initial stages in Science, a means of getting coherent data, from which useable formulae can be extracted, and by means of which predictions can be accurately made. Whereas Theory occurs when such concrete results and extracted relations are attempted to be explained! And the new ”Theory” was that put forward by Bohr and Heisenberg, which interpreted what these results “actually meant”.

The Role of Statistics in Science

The inclusion of Probability and Statistics was not at all new! Indeed, whenever an area in Science could not be dealt with in the usual pluralist way - “by Parts”, it was always instead dealt with “as a Whole”. By taking overall results, rather than attempting to cope with the multiple components of altogether too complex, many-sided and simultaneous situations, they, instead, extracted overall formulations, and could always predict overall outcomes. Indeed, many such situations which we “did not yet” understand, were regularly subjected to these sorts of techniques.

The Productive Marriage

But, in the past, scientists were well aware of what they were doing, and did what they could already do in such areas, while admitting of their detailed ignorance. Occasionally, theorists could put forward speculative models that actually suggested such overall techniques, so in those circumstances there was the presence of an as yet unproved explanation to underpin the methodology.

The “Critical” Standpoint

Yet, in spite of a section on The Theory of Knowledge, which you would think would be about such things, especially in this context, Mason doesn’t seem to have one! He appears to be a passive observer, threading his critical way through the often-opposing ideas of many others in a “modern” pick-and-mix sort of way. It is as if he is able to look down upon the errors of these mistaken individuals from a superior, detached position. Yet his superiority is geographical rather than conceptual - like the modern brain scientists who know where everything happens, but have absolutely no idea of either what or why! He looks down from his elevated position, and points out the various inexcusable errors, without anywhere replacing them with a superior, coherent and comprehensive alternative.

No Alternative and Comprehensive Standpoint (but merely a Post-modern “cutting & pasting” collage)

If you step back from his criticisms and look for the supposed transcending alternative, you cannot discern a single thing! He merely repeats the mantras of dialectics, and for him that is sufficient! It reminds me of the armchair critics of absolutely anything (see the Internet), who sitting solidly within the midst of what they know, can from that ground criticising anything that doesn’t agree with that “ground”. Indeed, even that methodology is confounded by his method of “cutting and pasting” quotes from all and sundry, typical of the knowledgeable professorial standpoint. [And having known quite a few in my academic career, I am speaking from experience]

Is a Detailed Criticism Necessary?

Now, I could, and most probably should, demolish this arrogant fellow by taking his points one-by-one (and may have to do it sooner rather than later, but it is, and I believe purposely so, extremely labyrinthine that to do that, more or less lets him set the terms of argument. But, as he throughout attaches the terms idealist, materialist and metaphysical to everyone else involved, perhaps I should commence with the things he doesn’t mention at all...

The Un-admitted Bases of Science – Plurality & Formalism (The actual causes of the Crisis in Physics)

He doesn’t mention the absolutely basic assumption of all of Science and most of Philosophy, which is Plurality – the analysis of all things into Wholes and their separable Parts, and he can only oppose strict determinism with relativism.

He also says nothing about holism, or the very important Scientific Method. Indeed, he talks about Science without investigating the very important philosophy and methodology. Now, you can’t do that!

Most of all, he doesn’t contrast the Formalism of Einstein with the position of classical science. Nor does he explain the battle finally won at Solvay (1927) by the Copenhageners against Einstein, and why Einstein could not possibly win, because of his shared conception with his opponents on the primacy of law as expressed in quantitative relations.

No Criticism without a Delivered Alternative!

Mason’s brief throwaway lines on this are just wholly insufficient. If you are to supersede all these great men, you are duty bound to explain such things comprehensively, or if you don’t know enough to do that, then at the very least reveal your own philosophy in some detail.

The Missing Opponents of Copenhagen

And, what about all those who have opposed the Copenhagen Interpretation, such as David Bohm and many other eminent physicists? Indeed, there have always been opponents of the consensus, and even Nobel Laureate such as Laughlin. Why are they totally omitted from the discussion?

Why Nothing on the Current Crisis of Capitalism?

If Mason wrote this in 2010, he would be writing it in the midst of the current World Economic Crisis of 2008, which still continues and indeed deepens to this day (April 2012). That means he must know of all this, plus the crucial development of the Large Hadron Collider and its objectives.

How could he, with his avowed historical materialist emphasis, fail to even mention either of these? How could he fail to address the search for the fabled Higgs’ Boson, and the consequences of failing to find it? Lastly, with his pro-Copenhagen position, why did he make no mention of Parallel Universes, Physical Singularities, Dark Matter, Dark Energy, Pair Productions out of nothing, and Pair Annihilation into nothing, Strings of pure Energy as the basis of absolutely everything etc. etc. etc.?

The “Jigsaw” Approach

The “cut and paste” methodology is evident throughout Mason’s piece – with the assumption that the various “jigsaw pieces” together constitute a more complete picture, but which in fact is surely a means of avoiding any sort of coherent basis, and instead “papering over” all the evident cracks to make an overall unformed standpoint appear “smooth and continuous”.

It is an eclectic mix of many pros and cons, which he is incapable of either effectively criticising, understanding, or even expressing as his own.

To the question, “Would you trust this theoretician to lead our class in a Socialist revolution?”, I can only say, “What do you think?”

So, What is the Position of this Opponent of Mason?

Indeed, in musing how best to deal with someone like Mason, I usually don’t address their eclectic and incoherent mix point by point, but indeed usually preface any detailed criticisms with a clear statement of my own position, and, I think that is most likely to be my approach here.

It is Essential to Admit the Profound Crises in both Physics and Marxism (For otherwise the changes are NOT Science and NOT Marxism)

To preface my own discussion of, on the one hand, Mason’s Quantum Mechanics, its consequences for sub atomic theory, and on the other, Marxism at this particular juncture in World History (2012), as I am sure that these cannot be addressed without a detailed appreciation of the major unresolved crises evident in both areas at this particular time.

Decline of the Socialist Tradition

Since the victory of the Copenhageners at Solvay in 1927, there has been a thoroughgoing, still continuing, and totally unresolved crisis in Physics. While in revolutionary politics there can be absolutely no doubt that an even more devastating crisis in Theory has beset avowed socialists worldwide. And it must be said that the frequently recurring crises have been happening time and again. Indeed, wherever a section of the Middle Class have gained successive dominant positions in socialist organisations, and “developed” the philosophy and politics founded by Marx and Engels into ever safer channels, they were always primarily a rejection of a socialist revolution into something both less demanding and less dangerous for the current leaderships. They were sure that they didn’t want to be murdered like Rosa Luxemburg and Karl Liebknecht in Germany.

“We have a better way!”, was always the content of both these revisions, and still is today.

But what about Tunisia, and Egypt, and Libya, and Jordan, and Yemen and Bahrain, and Syria, not to mention Palestine! Is there any doubt that these are revolutionary situations, and will “democracy” deliver what is required?

Clearly No Revolutions have been Delivered in Either Area.

So, in both areas major revolutions are required, and to observe someone unaware of both, and attempting to rejuvenate one by means of the major retreats in the other, stinks of betrayal! From both disciplines, such suggestions are breathtaking in their cowardice.

How can a Retreat be a Revolution?

The developments of the 20th century in Physics have certainly not constituted any sort of breakthrough, but actually constitute a major and debilitating retreat into, first of all, Formalism – Pure Form as Essence, and thereafter and inevitably into the Kantian form of Idealism.

While the defeats of the Working Class, occurring regularly since the victory of the Russian Revolution (including in Russia itself), have driven the rise of leaderships into inadequate and indeed wrong directions for the essential requirements needed for the coming revolutions.

Why They Agree!

The so-called Marxists don’t surprise me by embracing Copenhagen for in their own avowed area, for they have totally failed to develop Marxist Theory, and now, it seems, are looking to the very worst features of modern Science to cover their embarrassment, while making them appear daringly “edgy” and “radical” (and even “philosophical”).

Zeno as Enemy, and His Real Legacy.

Very early on in his historical scene setting, Mason actually endows Zeno with the assertion that “Motion is impossible”, which is very different to what he actually said that was more like “With your assumptions, motion is impossible” – not the same thing at all! And Mason’s version positions Zeno as an enemy of progressive philosophy. What an amazing error!

Zeno’s Paradoxes correctly debunk the two alternative, generally applied assumptions of Continuity and Discreteness as totally inadequate, and definitely reveals both as man-devised simplifications to be pragmatically employed where they could help. And, if Zeno is to be brought into such a discussion as this, the analysis must penetrate even deeper beyond his paradoxes to the actual bases for those inadequate assumptions, and most

particularly to Plurality – the concept that any discerned Whole can be analysed into its separable Parts, and thereafter repeated, level below level to reveal the layered explanations of “everything”.

Knowable & Unknowable Things-in-Themselves – the Kantian Retreat

Mason also uses the “trick” (for that is surely what it is) of dividing Reality into that which can be understood in terms of our own experiences, and those which, being beyond any possible human experience, are therefore also beyond our understanding – the Unknowable Things in Themselves as Kant called them.

Pragmatic Methods are Admissions of Ignorance

Thus, our Science is only applicable to the former, while the latter is undecipherable by us, and can only be dealt with by Statistics and Probabilities obtained via experiment. But, that is incorrect!

We do use such methods as pragmatic ways of dealing with situations we cannot yet analyse. They can be applied to such areas as a sort of acceptable method.

The Kantian Rider

But there is also, embedded within the Copenhagen position, an added idealist gloss, which goes well beyond pragmatism to the acceptance of a World that not only runs upon different lines from those which can usually apply, but of which we are congenitally and permanently disabled from ever understanding. That is the crucial retreat!

The Speculative Consequences

To take such a position is merely a cover for wholesale retreat, and isn’t even sustainable beyond a lame excuse. It inevitably diverts sub atomic science away from theoretical explanations into unavoidable and insupportable Speculation, as is definitively proved by the consequent “definitions” of:- Parallel Universes, Physical Singularities, String Theory, Time flowing backwards, not to mention things being both Dead and Alive (as with Schrödinger’s Cat) and things sometimes being concentrated into a particle, and sometimes extended into a wave, things being in two places at the same time... and many, many others. To merely affirm that, “That’s the way it is at that level!”, is, of course, nonsense.

“Keep ‘em All” Pragmatism

So, to judge such affirmations by the Copenhageners, you simply must address the consequences of their standpoint. Indeed, the leaders of that School even condemn any attempts at explanation as pure self-kid, and instead, when confronted with excessive contradictions in the study

of the Nucleus of an atom, moved into having at least 12 mutually contradictory models of the nucleus, which they would use as and when one or another “fitted the measured data”. Such is a wholesale retreat from the best traditions of Science, while also representing the very pits philosophically.

Yet, Mankind has always found ways of pulling itself up by its own bootlaces, and must do so here too. Do these people know nothing of how we use abstraction?

Of Discoveries, Equations and Understanding

Indeed, the effective use of probabilities in prediction is the wall behind which they hide their abject retreat. Prediction is not Science! It is, and has always been the recognition of Pattern or Form, which recurs innumerable times in carefully constrained and measured data. But the discovered relation is NOT a law: it is merely an excellent description over a range, which can be very useful. Science only really begins after that initial stage with the explanation of phenomena, and if you jettison that, you are abandoning Real Science.

The Missing Area – *Qualitative Change*

So, let us address what a Marxist should be addressing, but which certainly is not being done by the current professed Marxists (such as Mason) at this crucial time, but also continuously for almost a whole century!

It is due to the total inadequacy of the current scientific standpoint and methodology to deal with Significant Qualitative Change! In spite of Hegel’s realisation of this and his avowed project to construct a New Logic of such Changes, it was not achieved. And though his disciples Marx and Engels, by turning him on his head, or rather on his feet, did indeed commence this task with truly tremendous gains, their philosophical works were not always understood, and the continuance in this crucial area was not carried through after Lenin and Trotsky.

Decline of the Marxist Tradition: The Current Uncompleted Task

Instead, almost like a religion, the “saved” referred to the Words of Marx to cover every possible eventuality, whereas what was really needed was for the ever deepening understanding of their “Methods”, and the completion of Hegel’s project with the devising and definition of a truly Holistic Science of Change!

It simply hasn’t been done, and the achievements of the real masters were instead ossified, and even significantly distorted, to fit all sorts of alien speculative ideas.

The Nature of an Emergence

“Where is the proof?”, you may well ask!

It is primarily in the total absence of a detailed study of what are termed Emergences (which includes Social Revolutions, but extends much further). For these not only occur in the social sphere, but in Science, and indeed in all human conceptions too. Long before Man, or even Life, these Transforming Events were the only way in which the entirely New emerged from a prior Stability. So, where is the model of the inner trajectory of an Emergence, which reveals the necessary Phases, between a prior Stability, via destructive cataclysms and breathtaking ascents, to be resolved into a wholly new and transformed Stability – like Life, for example?

It doesn’t exist in so-called Marxism from anything done in that name for the last 100 years!

Absolute Truth and Partial Truths

Also, in always digging deeper into the methods of the Thinking of Mankind, where is the detailed study of Abstraction, and the vital relationship between man-devised abstractions and concrete Reality? And, perhaps most important of all, where is the crucial role of *Objective Content* in the whole sequence of theories devised by Man as legitimate moves along the path to Truth? For this is neither mere relativism, nor pieces or parts of the Truth, but legitimate constructs that can, and indeed do, take us in that desired direction.

Philosophy is Crucial

Now, the reader may wonder what I have to say in detail about Mason’s arguments, and distrust all this philosophical stuff. But, what was Marx? He was a philosopher!

Without the genuine development of Marxism – the so-called theory of the socialist movement could only reflect the dominant conceptions of the prevailing system. Mason does not speak for Marxism, but openly imports bourgeois Science (at the height of its own crisis) into it, and hence endows it with their interests, purposes and, of course, crises too.

Notes on Marxism, Materialism and Particle Physics

Introduction

The following paper is a blow-by-blow account of Peter Mason's article. It is not easy-reading precisely because it takes this form of addressing all of Mason's arguments, and the lack of a coherent plan or even standpoint in the original piece.

Previously, I have produced a very different critique, which has as ITS plan and standpoint my own philosophical position. But, because of this there ends up being a great deal more about that than Mason's own position. So, this current paper had to be done too!

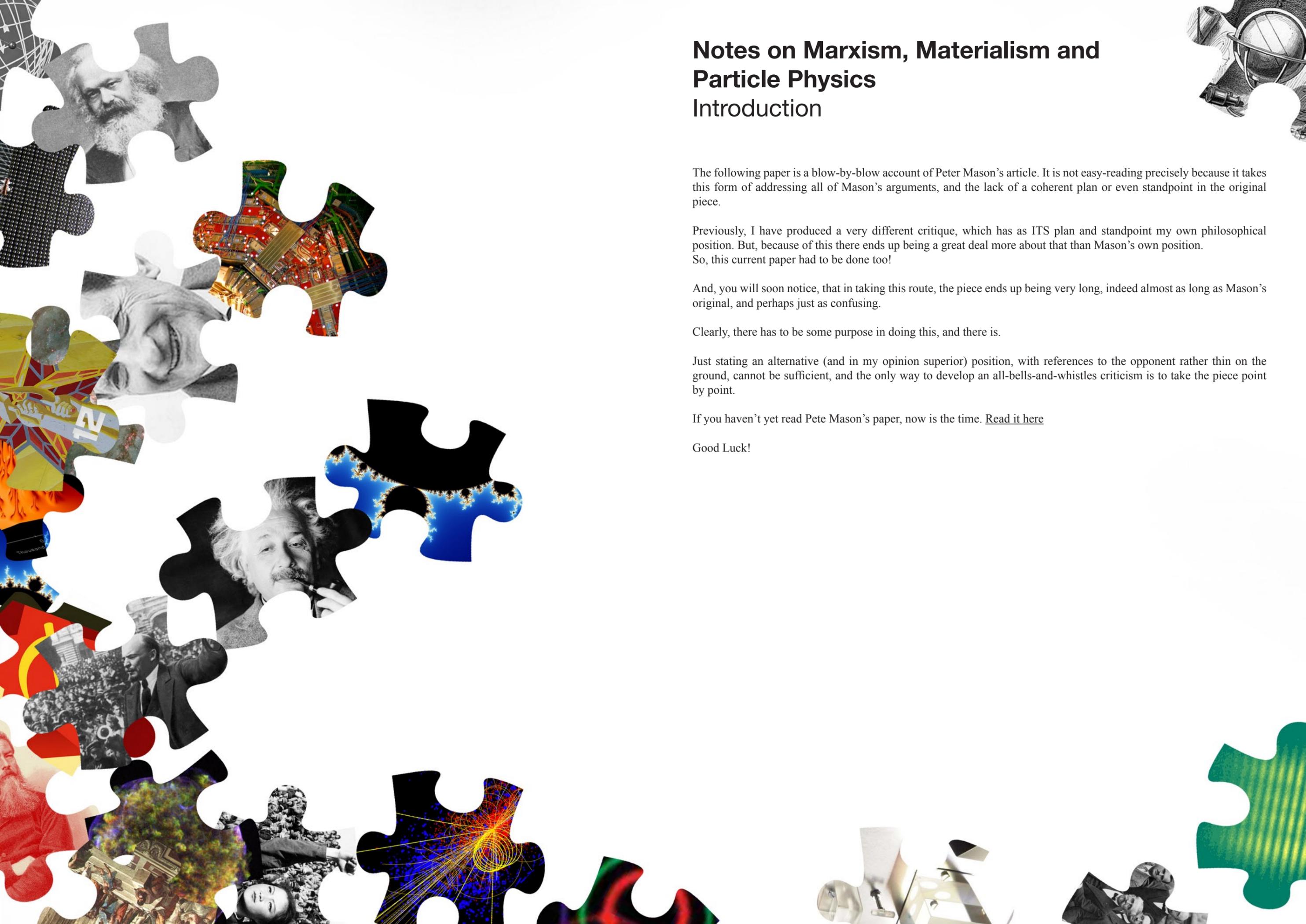
And, you will soon notice, that in taking this route, the piece ends up being very long, indeed almost as long as Mason's original, and perhaps just as confusing.

Clearly, there has to be some purpose in doing this, and there is.

Just stating an alternative (and in my opinion superior) position, with references to the opponent rather than on the ground, cannot be sufficient, and the only way to develop an all-bells-and-whistles criticism is to take the piece point by point.

If you haven't yet read Pete Mason's paper, now is the time. [Read it here](#)

Good Luck!



Notes on Marxism, Materialism and Particle Physics

Mason’s Historical Preface: Dialectics

In his historical preface to this treatise on Modern Sub Atomic Physics, Mason arrives fairly soon at what he terms Dialectics, which he ascribes to some of the early Greeks, when it could not have been any other than entirely metaphysical. And this was because at that time absolutely no analysable evidence could be extracted from Reality to establish such a position concretely.

It had to be a purely speculative interpretation of things at a superficial level, ascribing the effects seen to subterranean and inextricable, yet inherently counter-posing causes. Then Mason even expands their version to Dialectical Materialism, though the “Dialectics” doesn’t seem very evident from his description, unless you see it and Holism as the same thing. [Though it is difficult as he constantly even in this brief, supposedly historical preface, intersperses his account with definitive quotes from Lenin.]

Mason’s Historical Preface: Historical Materialism/Economic Determinism

It is also in this section that Mason completely misinterprets the purpose of Zeno’s Paradoxes.

His cavalier approach in this section informs nobody of anything, and his crude economic determinism is certainly very reminiscent of “Stalinist Marxism” rather than helping to understand real developments.

Indeed, the course of this development is projected as mistakes rather than a self-moving trajectory, and even inserts Positivism, into the positions of the Greeks, long before the gains of Science provided any sort of ground for such a standpoint.

The Omission of the Industrial Revolution

And he romps onwards without giving any credit to the pluralist analyses and methodology that actually revolutionised the materialist standpoint in Science some 2,000 years later. To be accurate, a holistic and maybe dialectical standpoint at that early stage would certainly be counter-productive to the essentially technological developments of the time with a Bronze Age to an Iron Age transition, and the isolation and control necessary to get reproducible results in such areas.

Superficial Dialectics

Even his initial “dialectical” idea of an atom forces the real into supposed “dialectical properties” that do NOT help its further investigation, whereas he describes Quantum Mechanics as more complex and challenging. The following quote is truly amazing:-

“The processes that Quantum Mechanics has discovered, Marxism does not expect to conform to dialectical formulae or laws.”

Quantum Mechanics demonstrates stunning examples of dialectical transformations and quantum leaps, which we do not have time to discuss”

What on earth is he talking about?

Confusing Methods with Interpretations

Quantum Mechanics didn’t lead to discoveries – the concept of the Quantum did that, and they were the results of experiments without any prior standpoint.

Quantum Mechanics isn’t a standpoint: it is a method of using statistics and probabilities to predict. Indeed, all data extracted under restrictive conditions and fitted up to mathematical forms – equations, are merely methods only. Even his quantum leaps are not explained.

His Real Ally is Copenhagen

What he should be talking about, and what he clearly subscribes to is The Copenhagen Interpretation of Quantum Theory, which IS a standpoint. Those physicists who took that position did so because they found that they couldn’t explain what they had revealed, and in consequence decided to reject any sort of explanations.

Copenhagen: A Kantian Standpoint

Instead, they looked up certain philosophical beliefs, which enables them to carry on without any real Theory at all. And this is because equations are only succinct descriptions of carefully constructed and maintained situations. To throw away all explanation for Kantian idealism is NOT a “stunning example” of Reality, as Mason infers, but a disregard of that Reality for merely a working pragmatic method.

“Science is Laws of Thought”

While correcting others, Mason quotes Engels criticism of the idea of a scientific Law, saying that they are really Laws of Thought, and not extracted from Reality. But, of course, that doesn’t really tell us anything, for Thoughts occur in a physical brain, and the above statement seems to say that absolutely nothing about how something of the investigated Reality comes across in such experiments, where it is certainly clear that it does.

What Does Science Actually Deliver?

The real question is not whether such relations tell us something about Reality, but about what defined sections of Reality it refers, and whether we can then universalise it beyond its Domain of Applicability.

As seems to recur many times in this paper, Mason misses the important points, which certainly deserve detailed investigation for “selected and re-formed” gobbits, which he believes support his particular stance.

Objective Content

In an important way, this section demonstrated that Marxism can, and indeed must, be an ongoing and developable system.

Clearly, whether they are restricting this to strictly dialectical Laws or to those extracted by scientists, they definitely cannot be merely Laws of Thought – what could possible determine them?

Anything we extract and effectively use must have some Objective Content within it – and such must be developable, but not yet complete, fragments of Reality-as-is, though certainly and crucially modified by their method of exposure and extraction. And clearly such fragments can never be absolute and determining, but only selected and deformed reflections of the simultaneously real!

What Determines What?

The whole idea of determining Laws is totally upside down! Surely, Reality determines the Laws, and not the other way round. Indeed, as soon as Marxists or scientists put Laws first, they have abandoned Materialism for Idealism, for what (or is it who?) determines the Law? Mason says he is opening a discussion on whether Quantum Mechanics is materialist or idealist, but he definitely defers to this “New Physics”, though “Why?” is not so far evident.

The Red Herring of Quantum Mechanics

At this point I must make a clear distinction between Quantum Mechanics, which is an equation based predictive system, and The Copenhagen Interpretation of Quantum

Theory, which is the associated philosophical standpoint. No one can oppose Quantum Mechanics for its practical use, but the Copenhagen view of Reality is what is really at issue here.

I wonder why he prefers to append that standpoint to a mere pragmatic predictive system? It is like supporting the Ptolemaic conception of an Earth-centred Solar System, because the formulae of that system gave correct predictions. But, as was later proved it couldn’t be more wrong!

Shame-faced Idealism – the Kantian Position

Mason then quotes a pro-Quantum Mechanics scientist as insisting that it is materialist. But, no scientist could do any other, especially when it comes to using the techniques involved, but what someone says he is, is surely not enough!

Nobody in the present age can openly declare himself to be a true idealist. What has been the best camouflage for some time now has been a shame-faced form of idealism, which insists that it is materialist, but actually endows Reality with the very forms Man has extracted as its determining, or even its primary driving forces.

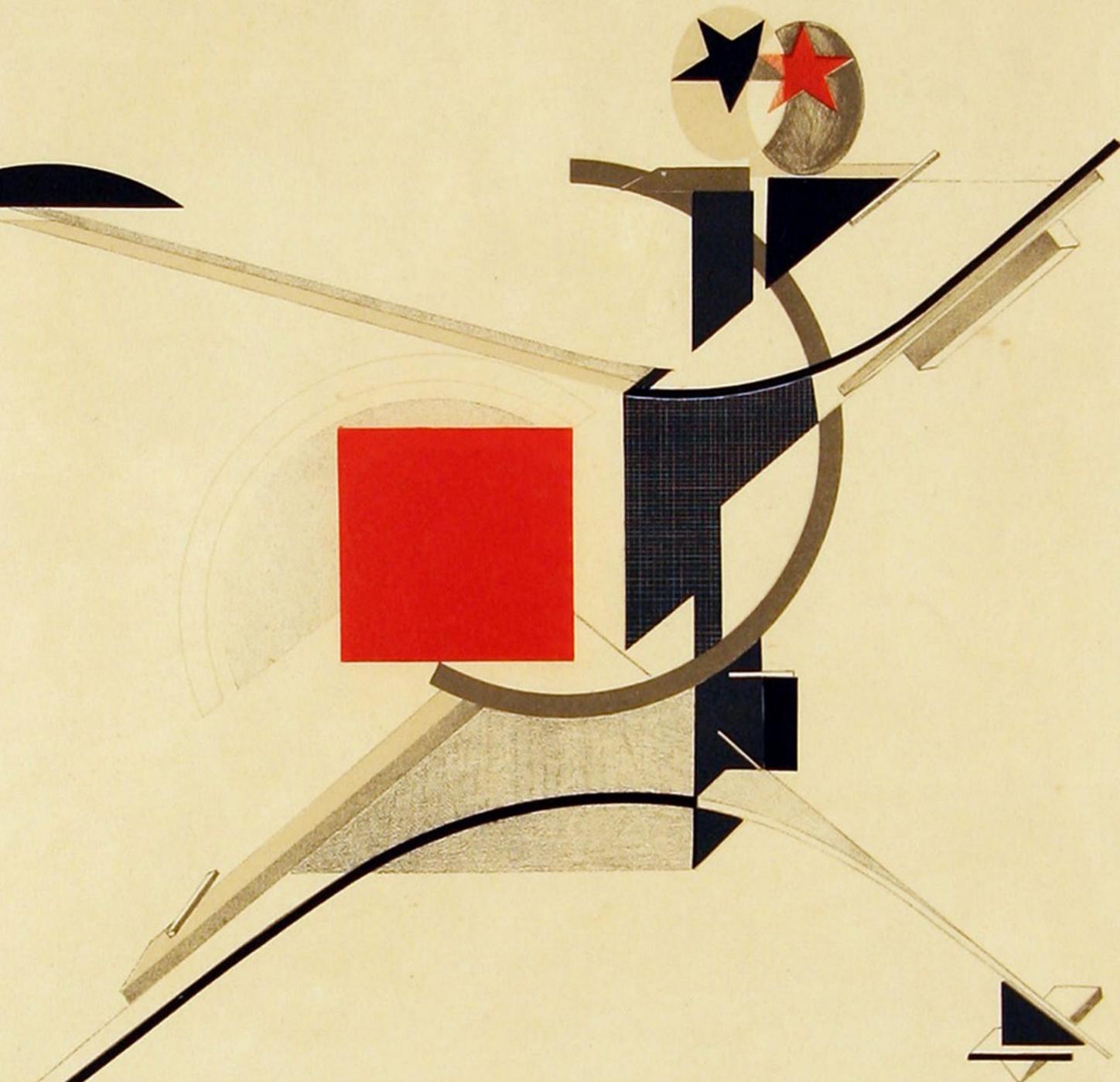
Instead of God or Thought coming first, we are told to bow down to Laws coming first and determining everything. So, the mechanical materialists are assailed by the Positivists.

Mason then subsides into a sectarian defence of his particular tendency in politics with some remarkable statements. He actually says, *“Dialectical Materialism is not a magic philosophical key, which unlocks the mysteries of Science, allowing the dialectician to make judgements and criticisms on scientific matters”* [I wonder what he thinks a philosophical position is actually for?]

The Significance of Philosophy and its Weakness within Science

Of course, it depends on what you call Dialectical Materialism, but if you mean the philosophical standpoint of Marx, then you are most certainly incorrect.

Science is not closer to Reality than Marxism. Indeed, Science’s philosophical standpoint has always left a great deal to be desired, whereas Engels in his, “The Part Played by Labour in the Transition from Ape to Man”, was generally ahead of the field because of his *philosophical* standpoint.



The Necessity of “Ground”!

But, also from a Marxist standpoint, that does not mean that Science is valueless. Indeed, its methods have revealed vast amounts of concrete facts and relations, which would be impossible to extract by philosophic deliberations alone. It has always been the most revealing methodology. It reveals useful facts, but not necessarily the explanations for them.

So, it is how you consider the meaning and causes of its revelations, and how they can be integrated into a comprehensive worldview, that the absolutely necessary philosophical sophistication comes into its own. And what we are discussing here is whether the Copenhagen or the Marxist standpoint will better guide the scientist to that necessary end.

For the involved philosophical standpoint not only can, but must, be criticised. And this especially now, when its assumed and unstated laws are coming up against aspects of Reality that its current view simply cannot accommodate.

Copenhagen was a Retreat, and not a Revolution

The “new view” (Copenhagen) is the scientists’ reaction to the failure of their implicit assumptions and hence Philosophy. And it is certainly NOT a breakthrough to a better one.

It represents the importing of semi-idealist ideas to cover up the cracks in certain aspects of its prior position. It actually constitutes a major and debilitating retreat, for it not only shies away from a thoroughgoing critique of its actual prior beliefs, but also actually replaces them with the total Abandonment of Explanation.

But Mason doesn’t see this at all, and that tells you a great deal about this theorist, does it not?

The Common Weaknesses are Evident

Mason effectively criticises “other Marxist tendencies” for condemning the new physics, while being wholly ignorant of what it has revealed.

But, his position reminds me of the argument between Einstein and his supporters on the one hand, and the Copenhageners on the other. For their dispute was guaranteed to be irresolvable because both sides of the argument were founded on the same basic assumptions, and they didn’t even come up for discussion. And, without those being addressed, no resolution to a better standpoint could ever be possible, for on such a shared and incorrect basis, irresolvable contradictions are inevitable – only retreats into defensive positions on the very same bases as before could possibly be the outcome.

In the same way, Mason and his “Marxist” opponents are similarly undermined by subscribing to the same basic misunderstandings.

The Myth of Radical Revision

Absolutely NO leap forward in standpoint is evident there either. They even quote exactly the same people, but none are really Marxists in the process of developing and deepening their avowed Philosophy.

One group (like the Einstein tendency) defend the traditional view, while the other (like the Copenhagenists) want to modify things in a “modern way”. But, it is clear that all these tendencies are not developing Marxism, they are merely treading the same actual paths, but interpreting them differently.

The Crisis in Physics does indeed require addressing, and the only philosophical standpoint capable of doing it must be that developed by Marx and Engels. But, in order to transcend this impasse Marxism itself must accommodate new evidence, and in so doing also transform itself.

But, the clear question must be, “Is that what Mason is doing here?”

And the equally clear answer has to be, “No!”

The Basis of the Crisis in Science

As it happens, the Crisis in Physics is only one aspect of a Crisis in Science in general, which has totally emasculated it when dealing with the real questions that confront it on an ever-larger number of fronts.

If Marxism was still being developed, it would have revealed these general failures long ago, and thereafter been directed into new areas of study, complementary, and in addition, to its already transformed methods in Social Revolution, for example.

And, as soon as the whole panoply of human investigations is looked at, the gaping wholes in their general applicability quickly becomes evident.

Hegel’s Projected Task

Indeed, as revealed by Hegel some 200 years ago, the standpoint and methods of Mankind were largely restricted to the static (unchanging) and the purely quantitative changes in the World. Real Qualitative Changes, and the crucial episodic Events, when the wholly new emerged for the first time, were never addressed.

The Gravely Flawed Approach

And the reason was that the basic assumptions upon which all investigations and theories were based were totally incapable of dealing effectively with such “revolutions”

Now, on a series of fronts, Marx began to remedy this glaring omission, but, of course, we are talking about ALL developments, ALL evolutions, and to prove that the usual approach was incapable, we have only to consider the Second Law of Thermodynamics (“Time’s Arrow” as it is often called), which lays down that all changes are necessarily from Order to Chaos – the World is supposedly “running down”. And this is considered a banker Law, in spite of the Origin of Life and its Evolution, not to mention the clear development of the Cosmos over the last 14 Billion years.

Rejection Due to Marx’s Politics

But, because of Marx’s political affiliations to the Working Class and opposition to the prevailing Capitalism, his work was not only not carried through, but rejected as evil and wrong!

The Modern Failures of Marxism

The Great Task, commenced so brilliantly by Marx and Engels, was NOT carried through, even among its supposed supporters.

For example, where are the studies into the Origin of Life on Earth, or criticisms of the current cosmological rubbish that passes for a description of the Universe and its development?

What alternatives are put forward to the Big Bang, Parallel Universes, Physical Singularities and many, many others? Where are the detailed investigations into Emergences in general, and the analysis of the necessary Phases of such revolutionary Events?

Emergence via Chaos?

But, instead of the Marxists taking on this task, it has been left to the Mathematicians, who in further investigating Turbulence alighted upon the formal phenomenon of Chaos based upon (let us not forget) determinist equations.

Needless to say the Word can never precede the Deed, and formal Chaos cannot be ascribed to as a cause. Once again it is purely a description, and though well worthy of study, is NOT the cause of innovation, or anything else for that matter – it is about stability at its very limits, but still contained wholly within it!

The Essential Study of Abstraction

Where, also, are the continuing studies into Abstraction as THE most significant invention by Mankind over the last few thousand years? And, in that area, where are the revelations of the various kinds of Abstraction and where they inevitably lead?

All of these do not yet exist!

Why Real Marxism is Crucial!

And who else but the Marxists have been in a position to address these questions?

I can with justice condemn Mason, and his opponents too, for their claims to be the inheritors of Marxism. That, they most certainly are not, and it is not merely a sin of omission, for without the constant development of Marxism where can the revolutionaries of the Arab Spring look to for the essential advice when they need to turn their “February” into their required “October”?

Continuing with Mason’s piece, there follows a series of quotes, in which he claims that the present day critics of the Copenhagen approach diverge crucially from Lenin.

But once again, we must dissociate the experimental data, extractions of the usual kinds of formulae, and their subsequent pragmatic employment, from the interpretation – the philosophic diversion that is Copenhagen.

Confusion on Lenin: what is Law?

Lenin did indeed put his finger on it in the quote that Mason gives with:- “*Theory as a copy, as an approximate copy, of objective Reality is materialism*”

Exactly! Theory is both approximate and developable as it isn’t Absolute Truth. It must contain, though, something of actually existing objective Reality: it must contain Objective Content – an approximation, reflecting an aspect of that Reality.

Emergence in Scientific Law (ascribed to Thomas Kuhn?)

Mason goes on to ascribe to Thomas Kuhn [The Structure of Scientific Revolutions] with a dialectical insight into how Theory proceeds. But though, clearly, the revelations of scientists are crucial in developing a worldview, we do not import, along with their extra information, their own interpretations of them.

Indeed, I have never yet met a worse group of philosophers than our scientists.

The Abysmal Philosophy of Physicists

In studying these questions many years ago I read both James Jeans’ and Werner Heisenberg’s alternatives both called *Physics and Philosophy*, and was amazed how abysmally poor they were. But Mason quotes from the latter of these with approval, which also includes the immortal words:- “*What alone matters is our faith in the West,go forward until our aspirations are ranged spontaneously about their common centre*”

Enough said?

Confusing Prediction with Science

And Mason asserts, “*In Science successive new theories maybe very different to the old ones they have overthrown, but they are far more powerful at predicting what Nature will do under definite circumstances, so that the scientists can manipulate more precisely.*”

In such a statement Mason misinterprets the dataset-determined relations (in equations) as “theories”, which they are certainly not.

Indeed, they are a succinct version of a descriptive Form, that, being accurate over a range of circumstances allow predictions, and these are independent of whatever the interpretation is of the causality that delivers such results. Descriptions and explanations are NOT the same thing at all!

Theories (explanations) are much more demanding than the mere form-fitting of quantitative descriptions, and they are always temporary. For the former are about abstract Forms, which are eternal, while the explanations are attempts to move ever closer to “understanding why things behave as they do”. The data set used does not change, and neither does the extracted relation, but how you explain it is a function of the state of current human understanding, and will therefore change with the development of that facility.

The true scientist is well aware of these things, and knows what he faces involves the constant need to reassess and update all his theories, while the technician only has to have the correct formulae and the correct conditions to deliver as can be predicted.

Mason, in contrast states that scientists need to understand nature to develop new products. Not accurate enough, I’m Afraid!

The Ignorance of the Non-Doer

Mason should stop giving experimenters, mathematicians, theoretical scientists and even technologists the title “scientists”, for when he does, he can irresponsibly dodge

about between all these kinds of practitioners and draw all sorts of meaningless conclusions. Only true theory-developing scientists consider that the important question is “Why?”.

The Worldview and the Particular Solution

For though “What?”, “When?” and “How?” are all part of the contributions to Science, they are nowhere near as important as Explanations, for they alone illuminate ever more areas for study and provide possible analogies for ever wider and more comprehensive understanding.

And these are not unimportant academic differences! We are talking about an avowed Marxist’s attitude to the Crisis in Physics, and the current physicists’ preferred solutions. And, even more amazing, the importing of their failures into Marxist Philosophy as an “improvement”(?)

The “Unfashionable Standpoint”

Mason is keen, along with the Copenhageners, to reject any avowedly materialist criticism of the latter, by saying that such a standpoint is the old, metaphysical materialist and 19th century version, he can also say that such was demolished by the appearance of the quantum.

A Selective Case-Making Standpoint

Indeed, he seems certain that the philosophical (interpretative) positions of the Copenhageners are consonant with a dialectical materialist approach, and simply updates and improves(?) upon our conceptions of Reality.

I cannot but denounce the use of quotes from Lenin and Engels to support this cowardly retreat by Mason and his ilk, for having read *Materialism and Empirio Criticism* myself, I would never sink to such illegitimate quotes.

You either understand Lenin’s position and can accurately restate it in your own words as your position too, or you should refrain from quoting it in that way: it is selective misinterpretation of the worse kind. Used as Mason uses them, his quotes are selective patches to cover the cracks in his own position. Can anyone, having read both, honestly say that Mason supercedes Lenin? Of course not!

These quotes never make anything approaching a full case, they are selective fragments marshalled to support an already fully committed-to standpoint. They are almost religious, in that similar type quotes, though there from the Bible, are used to “prove” their own particular standpoint.

Missing the Real Lessons of the Quantum

But, the point about scientific revelations forcing us to review our Marxist conceptions is wholly incorrect. What were totally compromised, by the new discoveries around

the quantum, were many of the assumptions at the very basis of prior Science, and it was Science in Crisis, and not Marxism that had to be totally overhauled.

The solution of the physicists, who are not philosophers, and certainly never Marxists, was to embrace the inexplicables as “new facts”, and attempt to embody the same in their explanations as the Truth of Reality.

Copenhagen as Saviour of the Marxists

Mason, the professed Marxist, trails behind these failing physicists as “saviours”! And, we were informed, a claimed dialectical approach to materialism by the Marxists, was inadequate to cope with the “new Physics”, which could only be solved by the physicists profound changes to the way they considered Reality in the Sub Atomic area.

Mason saw the scientists as being better than the old Marxists (such as Engels), and indeed, the new approach could in fact correct those errors, and modify their approach.

What is the New Marxism?

So, at such a point in his paper, we are ready to receive Mason’s (as distinct from his many quotes) perceived necessary development of Marxism to cope with the new realities revealed in this crucial sub atomic area.

Will he go beyond the “Matter in Motion” of the old Marxists, and replace it with something much more profound, or will he merely re-quote the interpenetration of opposites as a more true and concrete alternative?

But, the interpenetration of opposites isn’t a force, or even a discussable process. It is an abstraction – down to Hegel, and isn’t even a Law.

So, what precisely is Mason saying, is he adding to the Marxist position and methodology? The answer is that it is impossible to discern a coherent standpoint in this new(?) position. It isn’t apparent, because it doesn’t exist!

If You Can’t Beat ‘em, Join ‘em!

But, as you probably have guessed, in spite of saying a lot, Mason delivers almost nothing! He even bows before Quantum Mechanics as a corrector of Lenin, and says so directly! But there is a saying, “If you cannot counter a new idea, then worship it!”

And to seemingly prove the saying, he also adds in Mathematical Chaos as another nail in the coffin of such out-of-date stuff as Lenin is supposed to have suggested in *Materialism and Empirio Criticism*.

And particularly Lenin’s use of the term “objective law” is put forward as evidence of his lack of understanding of Science as it is now revealed.

Using “Yes...but” Arguments: *Tory Reasoning*

Here we have a professed Marxist, who takes the same critical position as the Class enemies of the Marxist Philosophy, using the same sort of grounds.

You cannot blame Lenin for not living post-Solvay (1927), and you certainly cannot condemn him for not embracing the sort of maths-based Formalism of the Copenhageners and their subsequent offspring.

If Mason had added anything at all by his contributions based on the discoveries in Sub Atomic Physics, then he might deserve some consideration of his revisions. There is undoubtedly something to be learned from this area of Physics, but it is about Emergences and the Evolution of Reality, about which Mason says precisely Nothing!

He hasn’t added anything at all. Indeed, his only basis for criticising Lenin is that he did not agree with the yet-to-come Copenhageners. It seems prescience is demanded as well as everything else: true Marxists, it seems, have also to be capable of explaining what has yet to be discovered. And, to me at least, there is nothing in the Copenhageners position, that would have caused problems for Lenin. What do you think?

Non-Marxist Marxism!

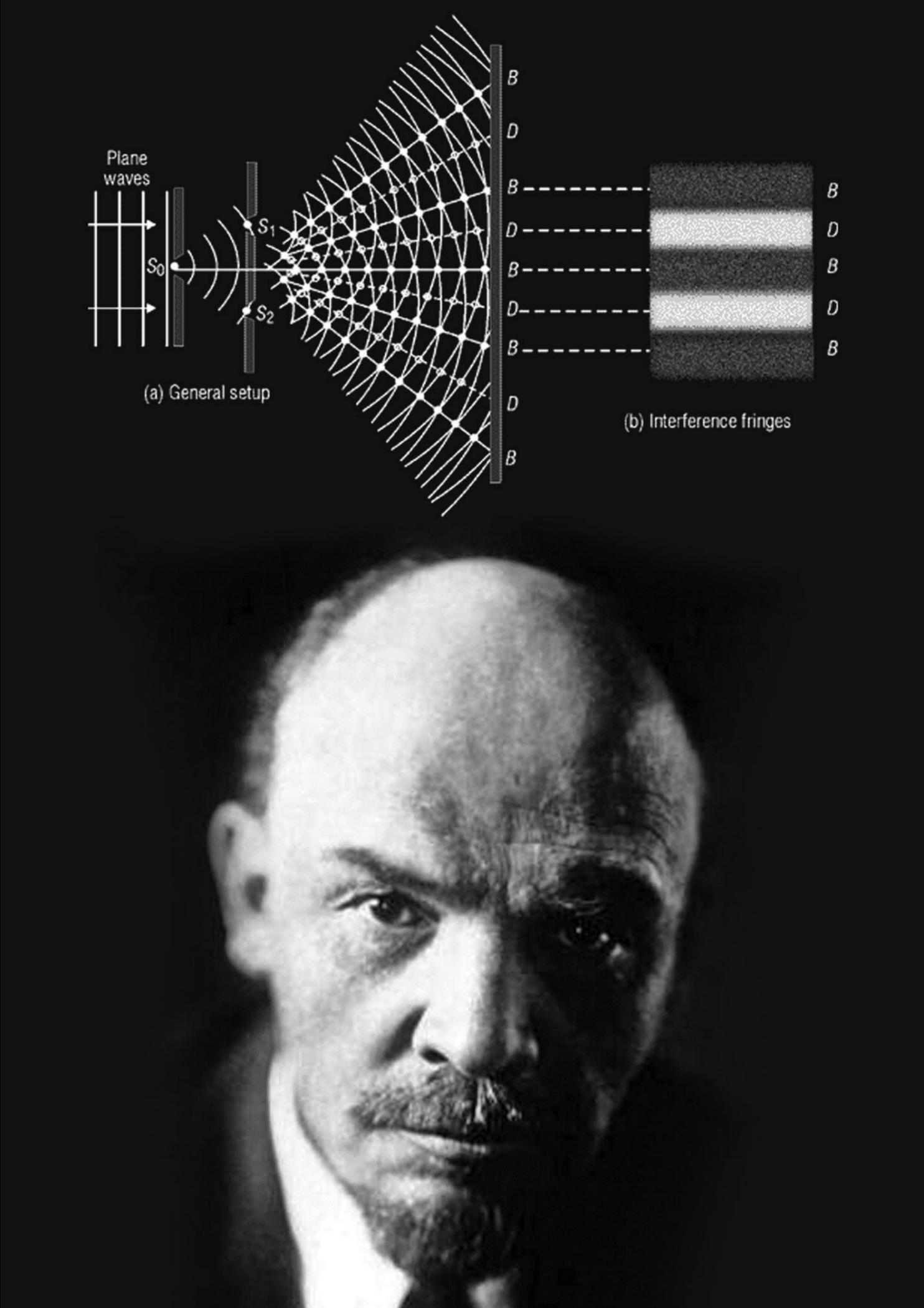
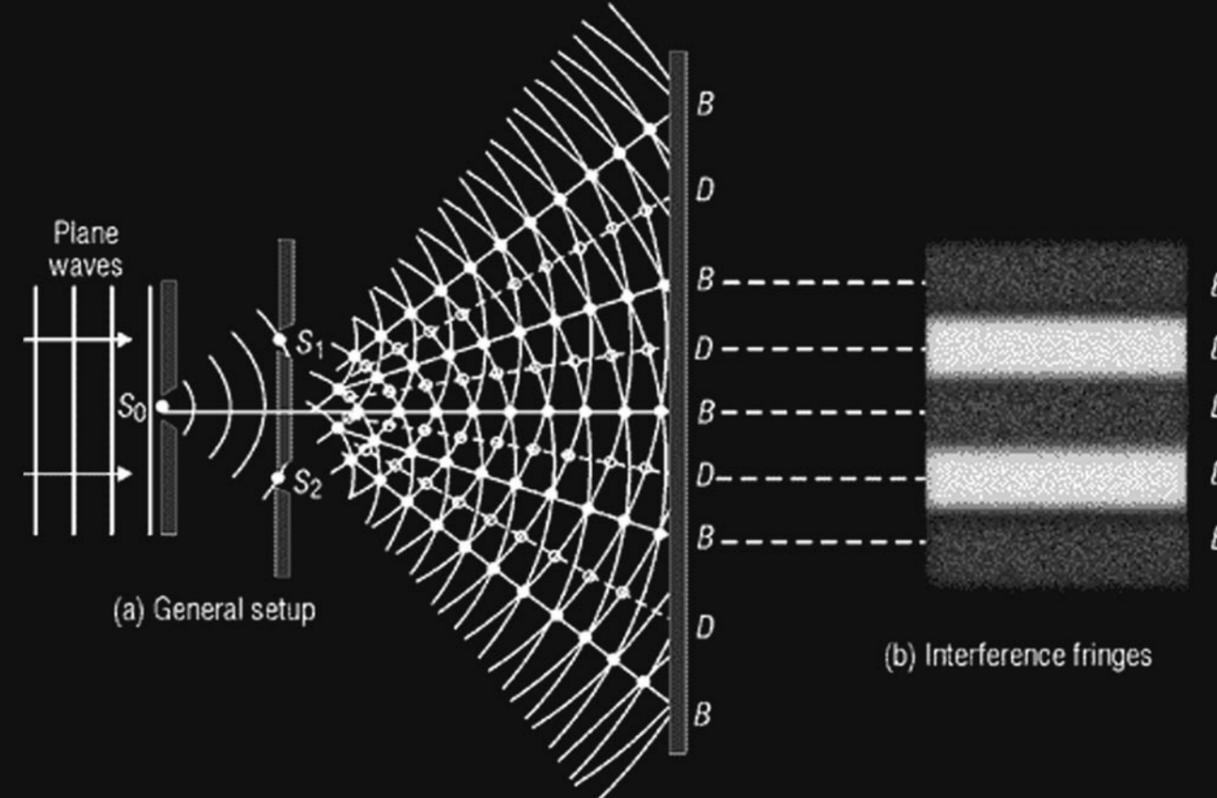
I can only conclude from this whole critique by Mason that he isn’t a Marxist, but primarily a follower of Science and its moving basis, driven by new discoveries.

Instead of addressing these discoveries from a Marxist standpoint, he actually refutes that standpoint as inadequate and inferior to the “philosophical” conclusions of the physicists.

Ignorance of Both the Philosophy and the Processes of Science

And, to cap it all, he also does not understand that the content even of his beloved Science. Laws are not mere constructs of the mind, but Objective Content isolated and extracted from Reality, but never being a full and total story. They reflect aspects of Reality without in any way explaining it.

Form-fitting to extracted data and subsequent predictions from such forms, does not constitute Science: it misses out the real heart of the scientific process between Discovery and Use, which is, of course, Explanation.



And without that essential heart, what is left is much too trivial to deliver any sort of sound philosophical position.

NOTE: because of his very brief mention of Chaos, I can only assume that he has absolutely no idea of what it is about.

The “Transforming” Imports

Throughout a long and deepening association with Marxism, I have noticed many imports from Mathematics, which “slight Marxists” thought would be great innovations.

Eric Thom, with his Catastrophe Theory, was supposed to be highly significant, and was bandied about for a while as a probably “transforming addition”. But, it was purely about Form, and Form does not make Content in the real world. Indeed, the exact opposite is the case, and concrete Reality actually makes Form. Forms are the Shapes and Shadows that are evident from an actively developing real world.

Eternal or Emergent?

Were all the Forms that mathematicians investigate always present? Did they always exist, even before the first stars? Or did Reality develop, and, via crucial Emergence Events, create the wholly New – including New Levels and New Laws? For if so, any searching only within Pure Forms will not explain Reality as it is and how it has developed. Will it?

Form is Eternal, but also Insubstantial!

So, it was, just as Quantum Mechanics is, pure formalism, and any avowed revolutionary “explanations” were, and still are, fit-ups and not at all intrinsic.

Form is just Shape – a description, a pattern-fitting that facilitates Use. It, of itself, explains nothing!

Misinterpreting Lenin

The crucial error is that Mason ascribes the statement that Reality is ultimately reducible to Laws to Lenin, which was the consensus belief of his day, whereas Lenin was very clear about what is now termed Objective Content as a measure of just how much of Reality had been included.

More Maths Imports!

And Mason also quotes Ian Stewart very favourably. Yet mathematician Stewart’s book *Life’s Other Secret* was packed with assertions that Form was as important as genetics in explaining Life. And even the quotes that he gives from that author such as that “*formulae are how we think*”, making such laws derivations of Man’s nature rather than Reality’s nature.

More Positivist Imports

I am also amazed that Mason continues to support the positions of Mach against Lenin, reinterpreting “what he really meant” as Mankind imposing Laws upon nature. How do they do that?

The Pluralist Basis of Science

Are such things speculations pure and simple? Of course they aren’t!

They are the results of a pluralist approach, which by the construction and maintenance of carefully devised Domains can reveal and therefore enable the extraction of farmed and purified Forms, and hence filter Reality to produce versions, which are not the actual concrete causative factors, but abstractions from them.

But, to make them have NO objectivity at all is nonsense!

What is Abstraction?

And Trotsky gets the treatment too for opposing ideas that Space and Time are merely categories of our minds. Of course, they are achieved in our minds – we call it Abstraction, but it is certainly never pure invention.

How was Mankind (as a definite part of Reality) supposed to “pull itself up by its own bootlaces”? Mankind must abstract and refine, and even correct, his abstractions, but you cannot dismiss this wonderful unique facility as merely a kind of self-kid!

“To Remedy the Errors of Marxism Embrace Scientific American”

Yet another ally for Mason seems to be available in the Scientific American Magazine, where a contributor insists that Time and Space are categories of our minds, and don’t exist in the same way at the Sub Atomic Level.

Even Trotsky’s writings against idealist writers are condemned as merely anthropomorphic prejudices. Wow!

Trivial “Levels”

Mason then trundles on with an assertion that Life does not exist in individual atoms of Carbon, which he categorises as an emergent property. O.K., but to only say that, says nothing, yet again!

Surely, for a Marxist, “How does Life emerge from non-living entities and processes?” has to be THE crucial question? To merely stick the label “emergent” upon it tells us nothing – it is yet another description, masquerading as an explanation, is it not?

Trivial “Emergences”

The term Revisionist is bandied about in all the various tendencies on the Marxist Left, but Mason is surely a prime example, in that he defers to the scientists of the Copenhagen retreat to “revolutionise” the erring Marxists.

As the sub atomic scientists’ world pushes ever closer to a final catastrophic precipice, he looks to them for salvation! (Where have I seen that before?)

Sticking Plaster Philosophy

Carrying on with Mason’s narrative, he again criticises Lenin and supports Mach, but also condemns the latter for his Positivism. Oh, we all thought that was what Mach was all about!

It is certainly helpful when you can stand well above all these various mistaken paths and discern the correct route to Truth, isn’t it!?

Criticising, while Digesting!

The next paragraph, on careful analysis, does reveal quite a lot about Mason’s “Marxism”.

In condemning the attempt to explain higher level things in terms of basic particles, and the positivists’ similar attitude in explaining even higher level things in terms of human sensations, Mason does NOT go on to reveal why these people do these things.

He cannot, because he also takes a similar path, but philosophically! In merely accepting the philosophical standpoint of the Copenhageners, he totally fails to examine their basic and incorrect assumption of Plurality, which divides all Wholes into their separable component Parts, and thence by Reductionism descends through all the causal layers down to some chosen fundamentals, which is exactly what these people do.

Historical Materialism as Economic Determinism

But instead of not only explaining that, and describing a sound holistic alternative, he counters them (without any such explanation) with what he terms a historical materialist approach, which without any detailed explanation, can only mean a kind of inevitable economic determinism.

The Primary Responsibility of the Marxist

If you are to condemn the usual widespread methodology within Marxism, you have to present an alternative. Merely affixing “emergent properties” to phenomena is totally insufficient. You absolutely must describe what an Emergence actually is!

You must explain it in contrast to its opposite - Stability, and crucially how such an overturn comes-to-be: by what mechanisms and ongoing processes can a prevailing Stability be first undermined. Is that caused by nascent new and progressive murmurings, which finally come to fruition, OR is it the exact opposite, where Second Law of Thermodynamics type dissolatory processes accumulate to increasingly undermine that present state, until it is wholly compromised and topples over into a total collapse.

But, if the latter, how does such a catastrophe escape from the seemingly inevitable Total Descent into Chaos, to somehow create a wholly New and Higher Level of Stability on an entirely new basis?

Does Mason Address the Real Questions?

There is, of course, none of such possibilities in Mason’s piece. They are left as if “obvious and inevitable”. You can’t do that!

This professed Marxist is certainly is NOT developing Marxism. He is “correcting” old-fashioned, Leninist Marxism with the “new Truths” of Quantum Mechanical formalisms.

Indeed, in supposedly condemning critics for their denunciation of the “Marxist historical materialist approach”, he hides behind the defence of that approach, while certainly NOT replacing what quite different bases are used by Marxism as opposed to the plurality of its opponents.

“Dialectical Materialism does not need any philosophical standing above the other sciences”, states Mason.

But Marxism is more than a Science. It is a Philosophy!

Defence of Copenhagen against Einstein Criticisms

Then Mason goes on to quote Manjit Kumar (from his book Quantum) on Einstein, with considerations of the latter’s “elements of reality” – namely Locality, Causality and Objectivity, in which he says that the Copenhageners do not have these essentials! And Mason takes these one at a time to dismiss them all in favour of the Copenhagen alternative.

Locality

This, in Einstein’s view, makes quantum entanglement complete nonsense. Things cannot instantaneously change in a total lock-step with one another when separated by considerable distances. The experiments, which seem to indicate this, have to be addressed, that is certain, but the “magical” and unexplained account of the Copenhageners cannot be agreed to under any circumstances. Indeed, explanations such as, “entangled photons have a connection

outside of Space and Time, in some unknown way”, is, of course, total drivel! “*You have to agree because it has been proved!*”, he insists, but it hasn’t been proved in the way that it is “explained” at all. What does “outside of Space and Time” mean, if anything? And, his final statement puts the cap on it: it is, “*these entities do not acknowledge the existence of separate localities*”.

Causality

The next “Einstein error” to be addressed is that of Causality.

Mason’s method of using intermediaries, such as Kumar, does leave his own position entirely masked, and yet another red herring is brought in to condemn Einstein’s view. It is the old favourite Laplace!

Can Laplace with his mechanist version of causality, be taken as meaning exactly the same as Einstein? Mason obviously thinks so, and uses mathematical Chaos to “prove” that such causality is a myth.

But, in so doing, that just proves that Mason understands neither Causality nor his other “ace-in-the-hole” Chaos. For the latter uses determinist Laws, which in “seemingly identical” circumstances produce different results without ANY extra factors being brought in to cause the difference.

Two important points must be made here.

The World of Pure Form – Ideality & Chaos

Firstly, mathematical Chaos is NOT about concrete Reality: it is totally confined to the Pure Forms alone and their possible manipulations. Whereas what the scientist means by Causality is NOT from Pure Form, but from concrete causes in the real World.

Clearly, Mason has no idea of any of this, and positions all Forms as being concretely present(?) in Reality, whereas in the way that they were achieved they have been removed from concrete Reality into a purely formal world termed Ideality – the World of Mathematics.

[I feel I must apologize here for not taking this any further, for it is not an easy area. Having spent many years asking mathematicians about it and getting nowhere. I had to do the work myself. Though if anyone is interested all my papers on the subject are available, many of them in the Shape Journal]

One point must be made however. It is that what is shown by work in the area of mathematical Chaos, is that the usual totally stable processing of any formula is not the only possibility, and that special circumstances can place the equation close to the limits of stability, while never

crossing into a new territory not governed by the involved equation, where it behaves very differently.

Of course almost all of these can only take place as demonstrated in Ideality (that is usually carried out on computers), and to ascribe such things as regular bases in all of concrete Reality is simply not true! To make the leap of completely abandoning any causality and replacing it with some sort of predictable randomness is more than a step too far. Indeed, such a step throws away the gains of Mankind’s investigations of Reality for the excuse that they do not constitute Absolute Truth.

To embrace Chaos as superior to Causality is almost religious, for what does it suggest instead of explanation?

The New Philosophy?

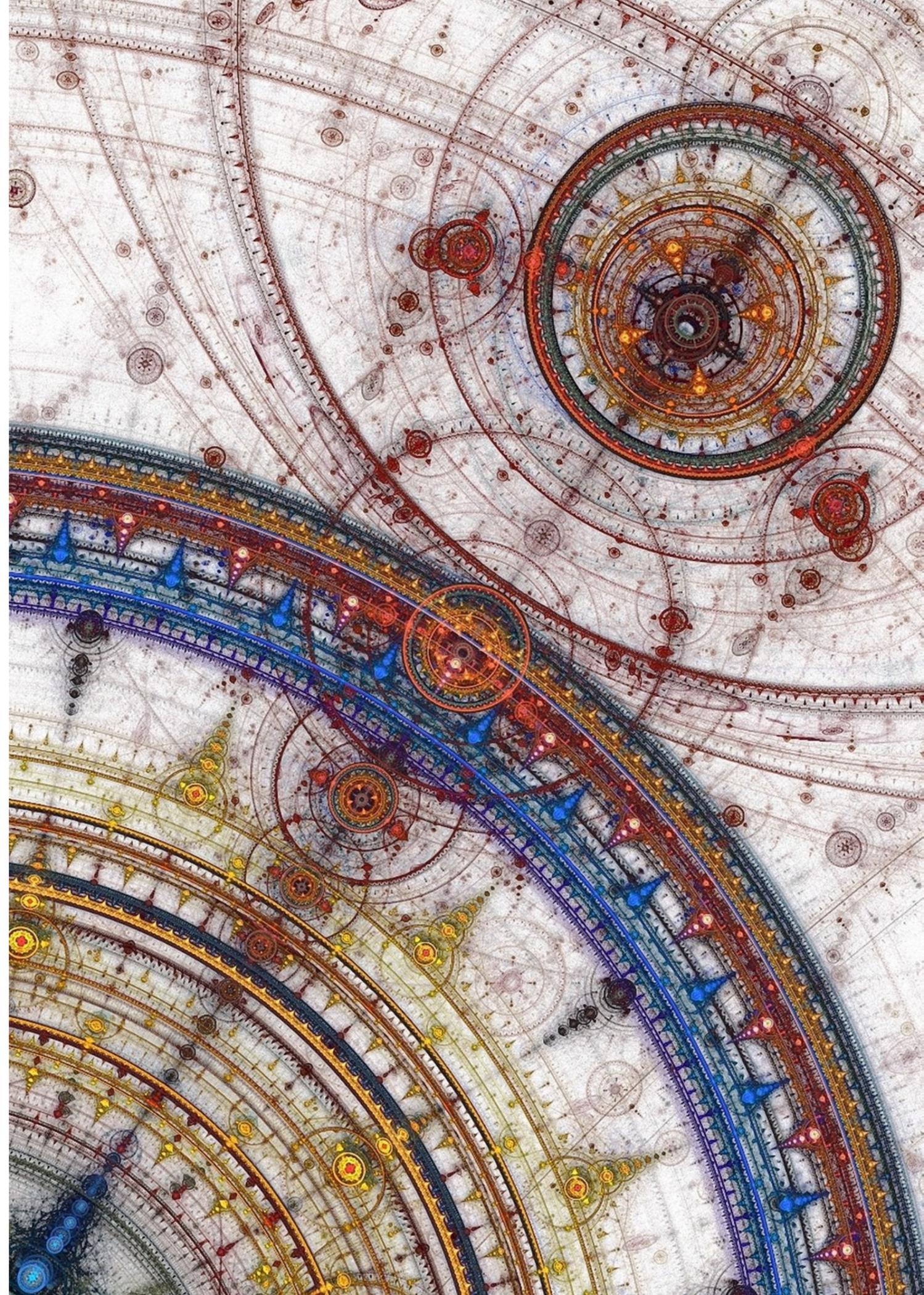
Mason also quotes from Heisenberg’s abysmal book *Physics and Philosophy*, in which he accuses Einstein of wishing to return to the old fashioned ideas of 19th century Science, and contrasts it with Einstein’s own conception of Relativity, and concludes that Einstein had definitely shown that there are no independently existing trajectories, only ones relative to a particular body of reference.

In fact you must turn that around, and instead say that all the trajectories that we can observe and measure will be referenced to some frame of reference, which we cannot absolutely define. It has to be relative. And he quotes Einstein’s conclusion that we effectively shun what Space really is, and instead consider only motion relative to it.

Now, this section wanders about quite a bit and Mason even admits that the issue of Observation has not yet been resolved. But that isn’t enough! When the Copenhageners apologize for, and base their new conceptions on, philosophical distortions, it cannot be allowed to stand. There are still many things still to crack in Sub Atomic Physics. [Indeed the author of this paper has published an Anti-Copenhagen Theory of the famed Double Slit Experiment]

But these as yet unanswered questions do not excuse a cowardly retreat into mystical conceptions. The Copenhagen Interpretation of Quantum Theory brings real explanatory Science in the sub atomic area to a dead stop, and allows (as is always possible in Mathematics) the Forms to be described and extended beyond their concrete expressions – to excuse the aberrations. That is why they are idealists.

Invented Form based upon real abstracted Form is promoted to actual Cause. Description alone ousts Explanation, and a virtual world is constructed wherein Form rules exclusively, and determines All.



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