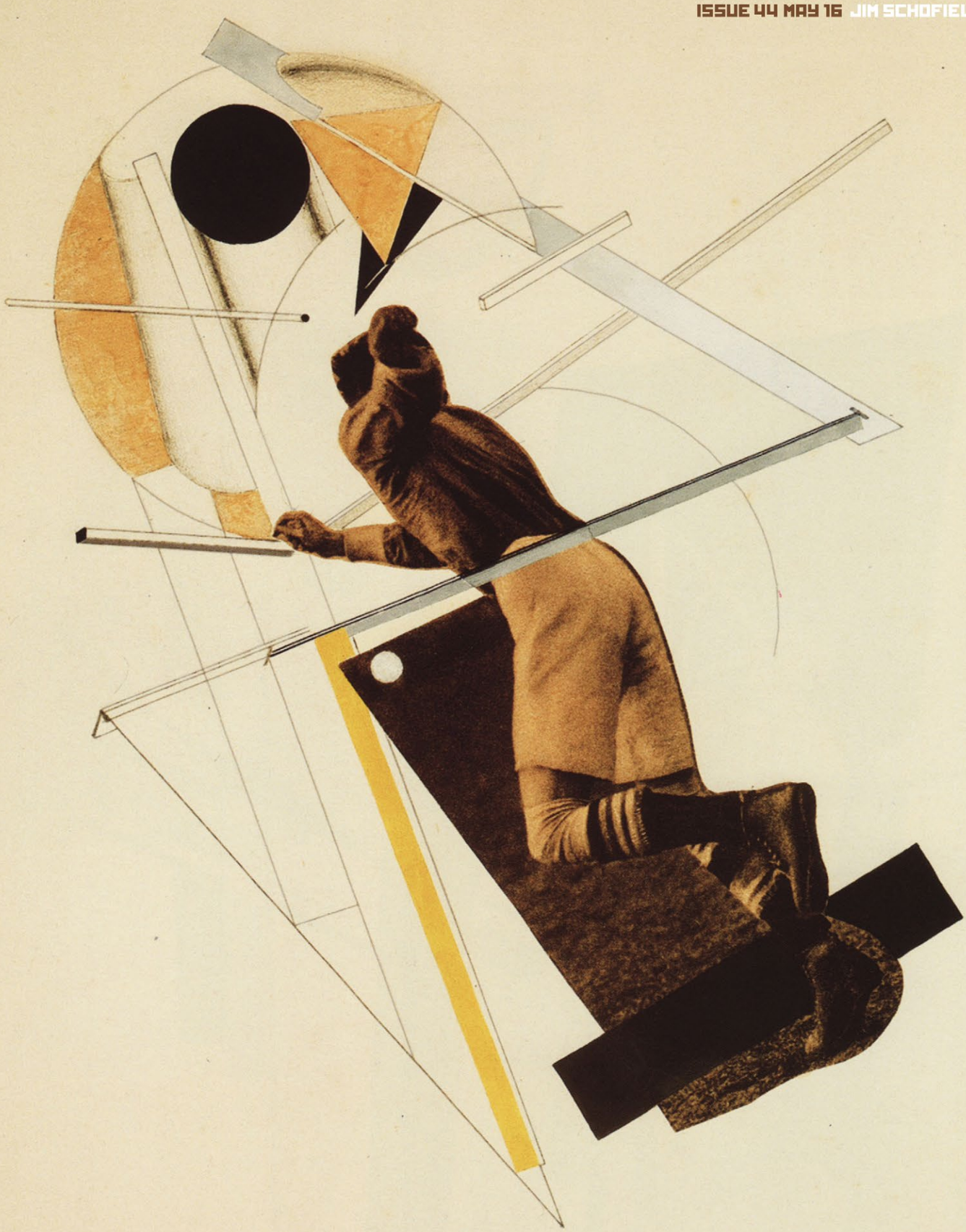
ISSUE 44 MAY 16 JIM SCHOFIELD



SHAPEJOURNAL

MARXIST PHILOSOPHICAL PRACTICE: A MATTER OF APPROACH

AN OBJECTIVE WORLDVIEW? / THE ETERNAL GOLDEN BRAID
REAL HOLISTIC NATURAL RELATIONS / STABILITY AND CHANGE

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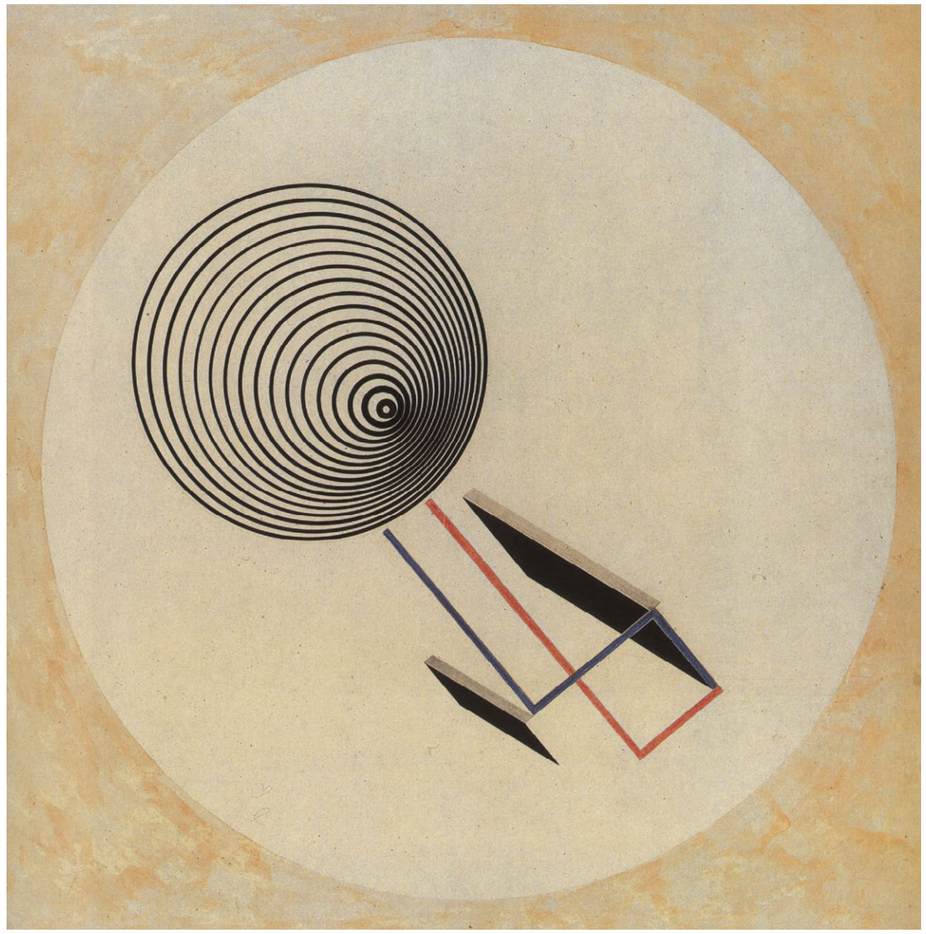


Marxist Philosophical Practice: A Matter of Approach

Issue 44 / May 2016

Preface
a matter of approach

Welcome to the 44th Issue of the SHAPE Journal. This is an unusual short series on Marxism.

It doesn't take the usual form of such an introduction: instead it seeks to reveal the philosophical stance, and how this allows the most penetrating and revealing work on a vast range of areas of serious study.

So, it isn't about Capitalism or Socialism, and certainly says nothing about Economics.

So, what is it?

It takes four very different issues in Philosophy and investigates them via the Marxist stance, which is termed Dialectical Materialism. So, it isn't just Politics. It is Philosophy!

And, as far as I am concerned, it is far and away the most profound and revealing stance and methodology that currently exists in Human Thinking.

It will be published on the SHAPE Blog as a weekly series of articles, so the reader can sample exactly what it does, and thereafter will become an full Issue of the SHAPE Journal.

Non participants in this field usually conceive of Marxists as political activists with a revolutionary purpose, and though that is certainly true, it doesn't address the Philosophy of Karl Marx that started it all off, nor in any way include the profound methods developed to analyse all aspects of our World.

Indeed, in addition to the impetus that gave a sound basis for the Socialist Movement, the methods of Marxism have also transformed many important areas of Social Culture and intellectual disciplines of every kind.

But, it doesn't, and shouldn't, divide Marxists into two opposing groups at all. Indeed, in the experience of this serious scientist and teacher it can transform inadequate positions, and enable the most revealing and exciting possible developments in literally all fields of study.

For example, in Sub Atomic Physics, after a century of retreat and compromise as embodied in the Copenhagen Interpretation of Quantum Theory, it is the Marxist approach that is now dismantling this idealist concoction, while making significant contributions to Philosophy in the same undertaking.

Jim Schofield
May 2016

Introduction
essays by a marxist philosopher

What are the reasons for an individual's chosen political orientation? Is it simply that those with money and power automatically choose that which is consonant with their current position - in this situation, Capitalism? While, those clearly without either, who indeed have to "work-to-live", call for something benefiting them and the rest of their Class - namely - Socialism?

Or, are our decisions made with respect to "grand issues" like Nationality and Sovereignty, or perhaps Trade or Political Dominance for "your own country"?

The former pair seems reasonable, as it clearly starts from the fact of Society being economically divided into distinct Classes with diametrically opposing interests, and carries that realisation into a required political structures to "benefit your own". The latter options, do rather reek of rhetoric from one side seeking to influence the other, so is by no means basic enough to be considered seriously, (especially for those at the bottom of any social hierarchies).

Yet, there are also other, very different reasons, for making a defining choice. And, the most important of these, has to be those based upon the understanding of where things are, and where they are going, and of course, most important of all "Why?" For, this could lead to making the best choice for the future development of current Society, measured in terms of the maximal well being of all its citizens.

Questions arise, of course!

Do we analyse our Society's Economic state and prospects, or, more generally, criticise our bases upon which we actually judge Society?

Yet, another alternative might well decide to dig ever-deeper, and consider critically how we think about all these things, and attempt to understand those crucial processes!

For, this focuses upon the Nature of Reality, on the one hand, and Mankind's Thinking about these things, on the other. For, such an approach has a name, and an illustrious History: it is termed Philosophy!

This alternative is surely the Base Discipline, from which to judge all the others.

Marxism *is* a Philosophy, and it arose for many complex reasons, but crucially as a thorough-going criticism not only of the Capitalist Economy, but of most disciplines arising out of that economic basis, and, perhaps, entirely consonant with it!

But, it wasn't devised by a disadvantaged group with an axe to grind.

It was devised by a group of professional philosophers, out of a major crisis occurring also in their own discipline. So, those involved realised the power of a wholly new approach in assessing and understanding not only all the economic systems, but also the cultures arising from, and resting upon, them.

For, it could be applied to all phases in the prior development of Human Society too.

This brief series of papers attempts to reveal what Marxism is about for a present-day practitioner, and how it transforms his reasoning.

An Objective Worldview?

Here are a couple crucial questions:

"Is There a primary discipline, which underlies all the other serious study areas of Mankind, and which is, therefore, an absolute prerequisite for them all?"

And second, "What allows human beings to penetrate Reality deeper than any other approach?"

The answer to the first question is, "Yes!", and that to the second is "It is Philosophy – the uniquely Human View of Reality!"

Let us attempt to establish these conclusions by considering three key disciplines that I have been involved with all my adult life.

The first was Mathematics, the second Physics, and the third Marxism.

In each discipline, there is a body of prior work, representing the gains of that area of study, but, at every moment in time, it will always be partial, and even contradictory, and hence will have its limits – situations which bring a line of reasoning in that discipline to a shuddering halt – seemingly incapable of, thereafter, being taken any further!

And, indeed, only one discipline, if you can call it such, enables such impasses to be transcended. It is the discipline that relates Mankind and Reality – Philosophy.

Yet, not all ideas which claim to be Philosophy are such. Most supposedly philosophic stances have the very same limitations as all other intellectual disciplines, but, nevertheless, because of its remit of both Mankind and Reality, only Philosophy, because of its recursive self addressing stance, has any real chance of dealing with the problems involved in the attempt to understand Reality by Mankind, in a remarkable recursivity of Thinking!

Other claimants to the title appear objective by basing everything upon Matter and Energy - Physics, or upon Absolute Pure Form - Mathematics, but those are the illusions that actually scupper their claims.

Now, historically, it might seem that Philosophy has the biggest handicap of all, as it regularly slips into Solipsism, with the Mind being taken as the basis, but the other contenders don't even admit that it can only be human minds that can attempt the task. At least Philosophy is self-conscious enough to know its limitations, whereas the others claim an un-established objectivity.

Only Philosophy itself can attempt to address "Thinking about Thought", as did the brilliant German philosopher GWF Hegel, and arrive at a true conception of the effective conceivability of Reality by Man.

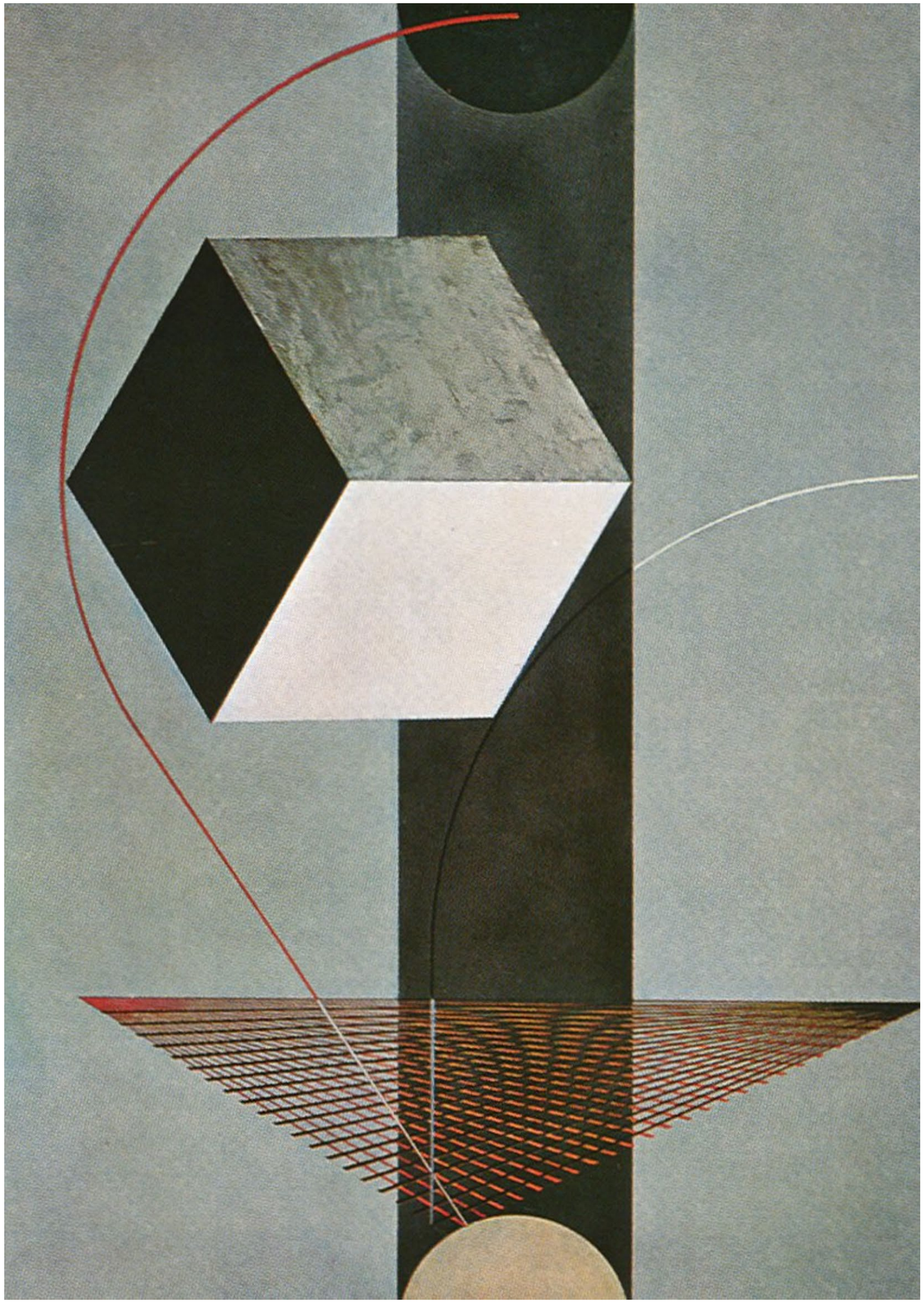
But, in addition, and crucially, Hegel also discovered the means of revealing its regularly occurring limitations, and even the means of transcending them.

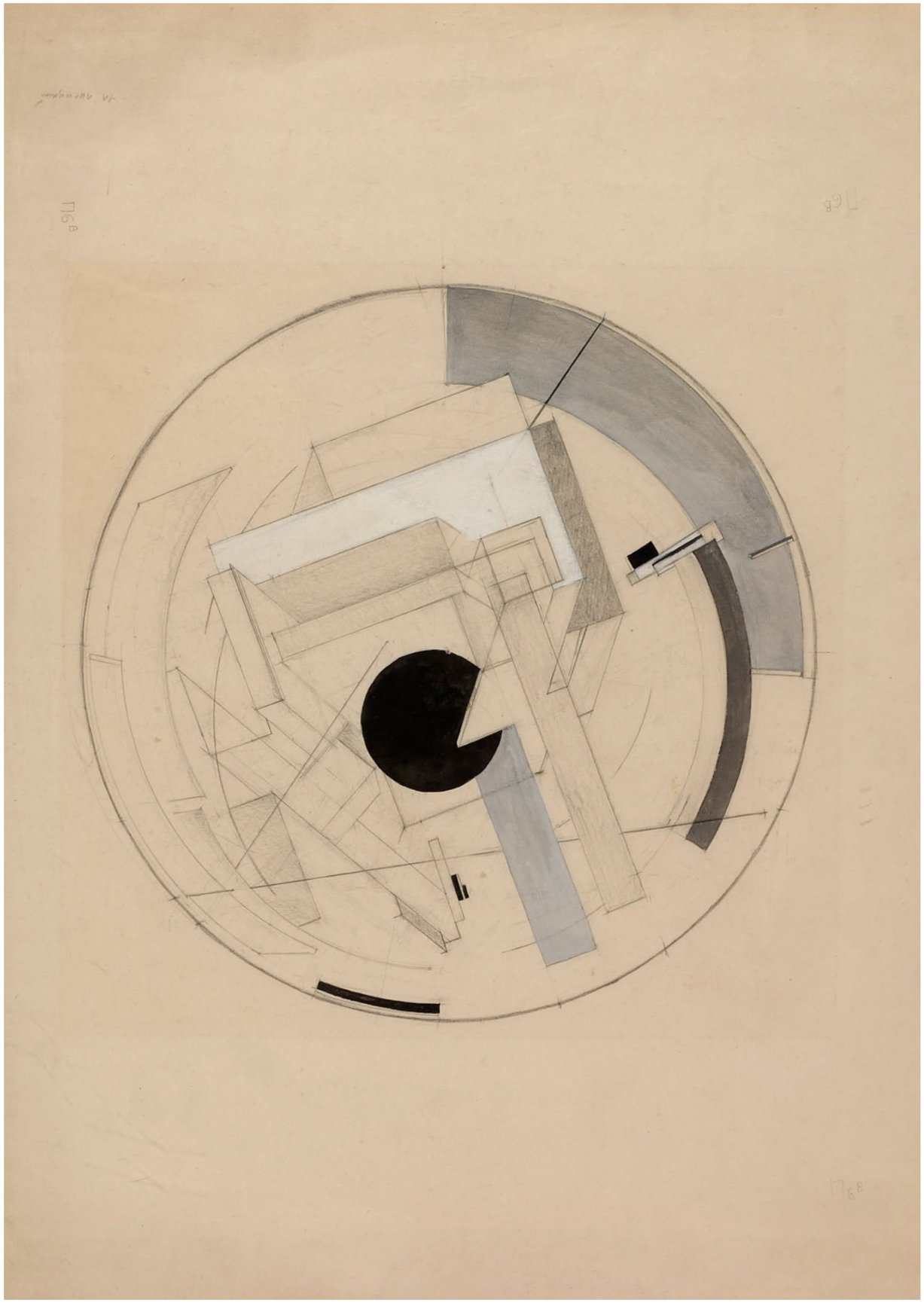
I think you must agree, only Philosophy goes beyond the individual restricted areas of study, to address them all – via their common factor – The Thinking of Man!

It becomes increasingly clear, when the various disciplines are criticised by the true meta-discipline of Philosophy, that Mankind has no direct access to so-called Absolute Truth, so that in order to get any sort of handle upon Reality, Man has no option but to both simplify and idealise what is seen, to have any chance of revealing even partial truths (or Objective Content as they are usually termed).

And, also it is clearly critical that the various assumptions, that are also and unavoidably made, will always be inadequate, and will, in time, inevitably result in guaranteed impasses, as always indicated by the emergence of what Hegel called Dichotomous Pairs of totally contradictory concepts, which, though, surprisingly, arising from identical premises, nevertheless, delivered totally contradictory outcomes – indeed opposite results that could not possibly both be true!

Indeed, these impasses have been occurring many, many times in Mankind's history, and are usually not transcended.





In fact, both arms of the dichotomy they represent are KEPT, and USED – by switching between them in attempts to find what will work in a given context.

This trick is the essence of the indeed useful intellectual backstop – encapsulated in "If it works, it is right!" – in other words Pragmatism!

And, such is not only the defeatist cornerstone of current Postmodernism, but crucially and revealingly that of the current consensus stance in Physics – The Copenhagen Interpretation of Quantum Theory.

Now, after millions of such pragmatic compromises, Human Understanding is finally in something of a mess! It is, at best, a vast patchwork of "small working areas" glued together by a set of pragmatic myths. It isn't useless, of course, but, with so many pragmatic solutions, it gets ever harder to integrate into a coherent and consistent whole. And hence, makes the development of an all-embracing means of understanding it all, ever more unlikely!

Indeed, impasse after impasse were never transcended, and instead became the impassable boundaries of new "specialisms", sub disciplines or even full-blown disciplines, in themselves.

Hence Human Understanding, in spite of a preponderance of evidence, lost its initial seemingly integrated comprehensibility, and the various "disciplines" proliferated at an ever more alarming rate.

Yet, even more damaging than this ready resort to Pragmatism, were absolutely crucial mistakes in basic premises, which became so universally subscribed-to, that the users became almost completely unaware of them.

One crucial split took place some 2,500 years ago in Greece and India, where the lauded Ancient Greeks (ignoring Zeno's revealing Paradoxes) plumped for the Principle of Plurality (as a powerful simplifying tenet), while at about the same time, in India, the spiritual leader, The Buddha, chose the very opposite Principle of Holism, as his primary tenet.

Some idea of the real nature of Dichotomous Pairs, is evident in the contradictory use of BOTH of these opposing stances, in what later became Science.

For, in attempts at explaining things, Holism turned out to be essential as it alone took all factors as significant simultaneously.

Yet, in concise and useable description, it was about various quantities, and Plurality was used instead, and worked very well in appropriately "farmed" and maintained contexts.

But, even such a contradictory union was not a full description of the mix of stances employed, for, STILL, the unifying Principle was always the oldest of all – that of Pragmatism – "If it works, it is right!"

Clearly, even in Science, the supposed pinnacle of a rational study of Reality, a great deal would have to be done to open up a real possibility of a comprehensive, consistent and coherent "Understanding".

My "initial solution", as both a qualified mathematician and physicist, was driven by my subscription to the philosophies of Hegel and Marx, yet I found NO similar purpose among my political colleagues. So, in spite of my intended task, little was achieved until I became an inter-discipline specialist contributor, using my abilities in writing complex computer programs, to assist colleagues in many different disciplines.

I soon came across particular "truths", not considered in other disciplines, and, perhaps surprisingly, found Key philosophical ideas when working with a world-class Dance Teacher and Choreographer in designing and delivering Multimedia Aids for use in the teaching of Dance Performance and Choreography.

The understanding in most of these was very different from my Economics-based Marxist stance in politics.

And, I was forced to go all the way back to Hegel's discoveries and methods to review my own rather limited and as yet un-criticised premises.

Though I didn't immediately realise why, I was having to solve problems in a discipline that I knew little or nothing about very quickly indeed! In fact, our very first production won a British Interactive Video Award, beating many so-called experts, with greatly more resources and better facilities.

On reflection, I realised that I had finally understood what Hegel and Marx were doing as philosophers, which could be applied in something as surprising as Dance Education, by the very best practitioners.

The usual rational ascent to ever more "explanation", was never adequate when a Dichotomous Pair of contradictory concepts arose, as with Zeno in his Paradoxes concerning Movement, and they also emerged 2,500 years later in the teaching of Dance via recorded footage of exemplar performances.

No matter what manipulations were tried, such a pair of contradictory concepts both seemed applicable yet contradictory, and pragmatic switching was the order of the day among most practitioners. The usual impasses were dealt with in the old pragmatist way, but were useless in solving concrete problems in delivering what was required due to adequate Access and Control of the relevant recorded footage.

But, Hegel's method of seeking out Dichotomous Pairs and then severely questioning the common premises that had led to both arms of the dichotomy, proved entirely appropriate in this area too! For example, Digital footage was excellent for accurately locating positions the various parts of a dancer at a certain moment, yet absolutely useless for also delivering the dynamic trajectory of the movements involved. While Analogue Video was immaculate at delivering real movement, but rubbish at giving accurate positions. After an extended period of research we found solutions to the problems using BOTH means, recorded simultaneously, and using accurate positional data from the digital footage, to produce animated overlays synchronised to the Analogue footage. The results were brilliant!

The now-termed Marxist methods of identifying an impasse via Dichotomous Pairs, and then transcending it by a major revision of premises, will always allow progress. These methods still lead the World over 25 years after they were devised!

But, it will not be by access to Absolute Truth. For, such is impossible for Mankind to achieve.

Instead, Mankind must, step-by-step, impasse-by-impasse, move beyond the limitations of prior premises. And, it cannot be but a truly infinite task, for several important reasons.

First, Evolution in producing human beings via Natural Selection could not endow them, with all that was necessary to alight directly upon Absolute Truth! It doesn't work towards such targets, but allows the most fit, in survival terms, to increase at the expense of those not so well endowed in those areas.

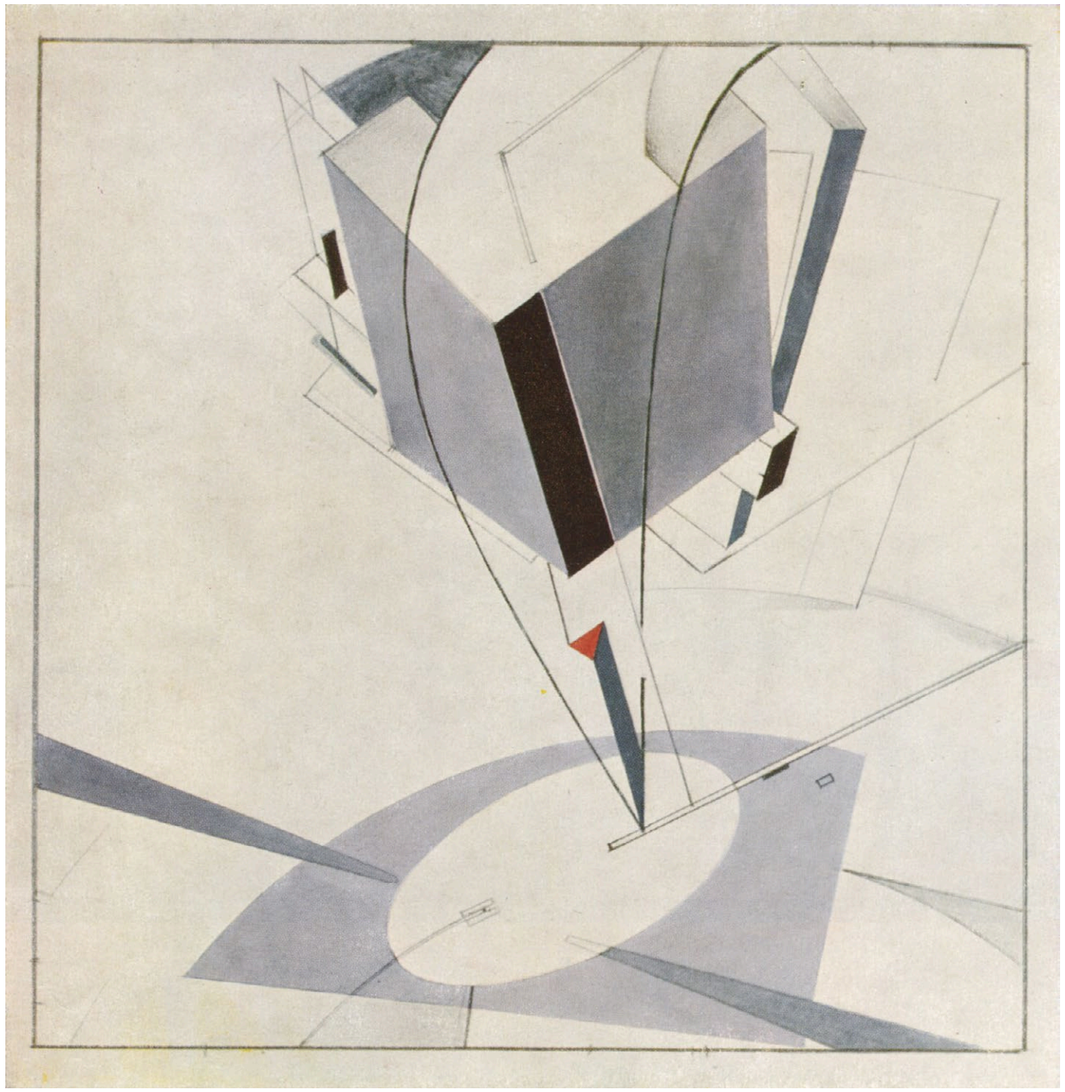
So, Man could not find himself appropriately equipped to naturally see what is involved in the general development of Reality. The determinators delivering human beings are much more prosaic.

So, instead Man has had to "pull himself up by his own boot-laces" to only forever approach, but never arrive at, Absolute Truth - which cannot but be wholly infinite, as it is always changing, so it is never a stationary target.

Second, in making significant gains in this task, Man is also actually changing Reality himself, because he is "of Reality" – he is changing the very thing he seeks to understand.

Third, independently of Man, Reality is evolving anyway, it isn't a static System.

Hence, conceptions of homing in upon a static Reality are a myth! The strategy must be to ride the wave of change increasingly well, though always falling into the water with every seemingly successful surfing attempt.



Real Holistic Natural Relations
as distinct from the usually assumed eternal natural laws

That ubiquitous Dichotomous Pair – Plurality and Holism - does indeed simplify Reality. But in very different ways they modify the Real Natural Relations, which do occur, while, simultaneously, delivering as a completely contradictory pair of views that each convey important, but limited, aspects of that Reality.

Let, us attempt to plumb the depths of this dichotomy, not by merely trying to decide, which option has primacy, but, instead, and more profoundly, by attempting to consider the common premises to both of these contradictory positions.

It isn't easy, for you would expect that such common premises are not likely to exist, but Hegel's brilliant researches showed that such do indeed exist, AND their study, criticism and replacement, is, in fact, the ONLY way that such impasses can ever be transcended. For, all other "get-arounds", though indeed useful, amount only to pragmatic and always "local" frigs.

Let us start, by getting things as simple as we can!

Clearly, Reality is not monolithic: it certainly doesn't conform to a single, all-embracing principle.

Indeed, the very fact of its evident Evolution, over vast stretches of Time, proves that it must involve opposing factors, that, in the end, are the causes of such developments.

Reality contains multiple entities, with various properties, which associate together to produce other more complex entities, and all of these, at all levels come into contact with, and consequently affect, one another.

It isn't a static set up at all! Remember, we are dealing with a Reality that goes all the way from the simplest material particles, via a veritable galaxy of both Non-Living and Living Things , and their Evolution, all the way to Mankind, and even Human Thought.

The old classical Laplacian Reductionism will never encompass such a complex, rich and forever developing Reality. The way things are, and how they interact, are certainly not by simple aggregation and the mere Summing of fixed Natural Laws.

The basic question, as Hegel showed, is posed in our discovered Dichotomous Pairs. Do the aspects of Reality merely Sum as the Principle of Plurality avers, or do they always affect one another, as is suggested by the alternative stance of Holism?

Now, the battle between these two stances seemed to have been settled long ago.

For, there is little doubt that Plurality has for some time been the preferred option, and for sound reasons too – yet, those are not the ones usually put forward. Plurality insists that if we can expose and extract a relation from Reality, we have actually uncovered an eternal Natural Law.

It may be acting almost alone in our necessarily farmed Domain of investigation, but it is deemed to be "unchanged" there, from when it is acting in the highly complex situations of totally unfettered Reality. So, those means of revealing such relations are therefore supposed to be entirely valid, and delivering a generally applicable eternal Natural Law. But, that is certainly untrue!

Now, if this is the case, why do I also say that Plurality and all its assumptions are important?

The usual arguments are to do with the possibilities of Prediction and Production, and the fact that the whole of Technology is built upon assuming Plurality.

But, though that is most certainly true, there is another reason why Plurality is important. It is the fact that unfettered Reality, in certain complex situations will naturally move into situations of Stability, and when it

does, Plurality closely approximates to what is discovered there.

Stability is a natural feature of Reality, but paradoxically for purely holistic reasons.

Quite apart from the usually specially arranged simplified (farmed) situations in all scientific investigations, which are our standard basis for both Analysis and Reductionism, there is also a regularly occurring natural mutual arrangement of multiple simultaneous factors which produces a self-maintaining situation, which, for sometimes quite extended periods, keeps things pretty well THE SAME.

But, it isn't due to an eternal Natural Law at all! It is due to an achieved balance between many simultaneous factors, which, for a time, at least, gives the appearance of a permanently static situation.

Indeed, such situations are very common. But, they are never the same as the usually assumed results of some single eternal Law. It is very different to that idealisation, because it isn't permanent!

At some point the contributing factors will always get progressively out-of-kilter, and all Stability will eventually dissociate!

Now, because this complex form of Stability occurs time and again, we misinterpret it in terms of our artificially conceived pluralist simplicity, and thus we are totally unable to cope with the dissociation when it occurs! WE simplify this active and complex Stability, with our idealised and invented version as delivered by our beloved Principle of Plurality.

Indeed, we treat them as exactly the same, and even extract "eternal Natural Laws" out of them, which is, of course, completely incorrect.

Now, it is this mistaken idea of the true nature of Stability, which causes us to choose Plurality as our "correct stance!"

And coupling this with the natural consequences of Plurality – namely very conceptually useful Analysis and Reductionism, and the assumption was concreted-in as the most important stance to take in studying Reality.

And, for a long while, it did indeed suffice!

Though Holism is undoubtedly more true, just as it stands, it certainly cannot deliver any sort of pragmatic methodology, anything like approaching what Plurality has been developed to allow.

Plurality as a philosophical stance may be profoundly mistaken, but its clever amalgam with pragmatism has found a stance, which can in many carefully arranged and maintained circumstances deliver an enormous amount of valuable productions.

It does not, of course, address Reality directly, but indirectly via a skilled farming of circumstances and imaginative simplification and idealisation (via mathematical forms), it has been a major advance on what it replaced in Mankind's efforts to understand Reality.

We have to remember that for almost 200,000 years Mankind, as a hunter/gather for most of that time, and a farmer for only the last few thousand years. And, in that vast amount of time, had, via his superior intelligence and Pragmatism, managed not only to survive, and even spread successfully to literally all parts of the Earth, but also latterly to actually prosper.

The method was not to directly address Reality as it actually is, but to "fence-off" an amenable area, and then filter out was wasn't helpful, and increase what was understandable (as in farming the land), to achieve a situation, which was sufficiently maintained in the best possible way to begin to correctly find out what factors were there.

These methods did not reveal the accurate determinators of Reality, but they did deliver simplified and idealised versions that could be successfully used, as long as the same conditions were maintained in use, as had been available when the "laws" had be "discovered".

It was the epitome of a pragmatic solution to a seemingly intransigent problem. And, of course, at the time, none of this was available via Holism: it may have been excellent in explanation, but it was inadequate in practical use!
So, in spite of the ease with which Plurality can be philosophically demolished, it is, nevertheless, the best stance, so far, for intervening in Reality to achieve chosen ends.

In other words, that dominance rests upon a much more primitive and very old stance – that of Pragmatism – "If it works, it is right!" Indeed, the whole of Science has been constructed upon that Principle, along with the perennial, Pragmatism, and even attempts at explaining what is going on in natural phenomena have to some extent been facilitated by what that approach allows.

BUT, it has to be made absolutely clear, that Plurality is the stance, of the exclusive study of phenomena occurring only within Stability. It is Stability-within-Reality that gives it believability. And, hence, its main and significant failure occurs in situations where Stability fails, and a wholesale collapse takes over, swooping down to a nadir of dissociation, and, if things go right, a following, soaring ascent to a new and different Stability takes over.

Clearly, between the fairly easily modelled periods of Stability, there are the qualitatively different game-changing Emergences, in which all real development occurs. And, without an understanding of which, Reality is simply, and exclusively, separated into Stable chunks, without any means of explaining the trajectory of getting from one to another.

In a nutshell, we have NO idea of how a Stability is either created or destroyed, nor can we explain the transitions between those events. If we, at this slow stage of our own development attempt to start at some beginning, we will most certainly, get it wrong. For, we have hardly begun to tackle such developments effectively.

So we must (and indeed did) start with currently investigatable situations, and work outwards from there. Clearly, the pluralists have a useable methodology when it comes to Stability, but cannot explain its creation, nor its inevitable final dissolution So, it must be these that are the most relevant areas for immediate study!

But, of course, such is much easier said than done, because the actual tempo of developmental changes can be hopelessly out of synch with human tempos, and even lifespans. Important changes can happen so slowly that things appear to be totally static. But, as luck would have it, we can, indeed, find areas of Reality, where the sought-for dramatic changes mesh sufficiently with such human tempos, to be fully experienced in detail, and hence available for serious study. And, this remarkably available example of observable development occurs in Human Society – in its Revolutions!

Societies which have been stable for centuries, and give the appearance of a natural and permanent Stability, can, suddenly, undergo significant crises, which, in certain circumstances, develop into wholesale dissolution, and a following recreation upon a very different basis.

So, it was in this area that the lessons of Hegelian Dialectics and Dichotomous Pairs could be, and indeed were, employed by philosophers like Karl Marx to begin to understand development in its key Emergent Interludes.

Yet an understanding of both Dissolution and consequent Creation, must be preceded by a thorough understanding of Stability itself.

How can diverse processes relate to one another – not only involving connecting Causes and even Resonances, but also consequent sequences and even self-maintaining cycles of change? Stability has to be where initially independent processes become relevant and even dependant upon one another. Maybe one process took in a resource, and from it delivered a product, which was the necessary resource for another process. So, these will prosper in tandem, so that ultimately chains of such linked processes are possible, as are even loops or cycles of process sequences.

So, without any other imperative, such systems of processes could arise, and, in special circumstances, become self-maintaining – if not permanently, then, at least, in on/off cycles.

Clearly, in situations of increasing complexity, such systems could both arise and persist. Yet, it is much harder to see how they could do so for long.

It may be important here, to take an example from the Evolution of Life, to illustrate what I am trying to reveal. Photosynthesis in plants is just such a self-maintaining system, and it has persisted literally indefinitely, because its Key Initial Resource is Sunlight, which goes on for billions of years.

Such a system effectively becomes permanent, unless an all-embracing cataclysm destroys everything, including the Sun!

Stability and Change
quantitative pin-heads & qualitative revolutions

Let us start by comparing Formal Logic with Dialectical Logic!

The former is universally applied across the board, and has been a significant method for explaining the causes and the consequences of phenomena via what are termed Natural Laws, as well as in discussions and arguments, where it reigns supreme to this day.

Yet, some 200 years ago, the brilliant German idealist philosopher, Friedrich Hegel, condemned it as inadequate in innumerable, developing situations, and consequently struggled for years to construct a better alternative.

His criticism was that Formal Logic only worked out the consequences of sets of fixed Laws, and, as such, failed in dealing with things that changed qualitatively.

It was solely the method for dealing with things that only changed quantitatively, and hence didn't ever become something else. He, therefore, sought a Logic of Change, and made significant gains in that direction – in particular, in his alternative method of reasoning, which became known as Dialectics!

Clearly, the crux of the problem was whether Reality was solely the product of fixed Natural Laws, or whether it self modified - that is it actually evolved!

For, centuries Mankind had struggled to distil "Eternal Abstract Laws" out of complex and often confusing Reality, in attempts to understand it, solely in terms of fixed material things and fixed abstract laws of purely quantitative change.

But, there was a crucial rider to this aim: which was expressly to enable the use of what was extracted to certain desired ends. Initially, at least, the reasons for the undertaking were almost entirely pragmatic. If what was achieved could be profitably used, then "it was right!"

Now, there were extremely important problems with these objectives from the outset, but they appeared to have been solved by adopting the ubiquitous Principle of Plurality, which certainly seemed to deliver a logically-tight system of handling these extractions effectively and reliably, but only as long as certain preparatory conditions were always established and maintained throughout both investigations and subsequent use!

This was achieved, and many gains were made possible by the resulting system, which was termed Formal Logic.

But, Hegel's chosen area was "Thinking about Thought!", and he compared the implicitly assumed Principle of Plurality with its opposite - that of Holism. For, this alternative turned out to be brilliant at exposing the complex causes of phenomena, and to a remarkable extent, dealing with qualitative changes too. But, there was NO practical, purely quantitative system of using Holism as had been developed with Plurality. It was clearly superior in Explanation, while, equally clearly, useless at dealing with quantitative questions.

It became Hegel's task to attempt to remedy this lack: he was determined to devise a Logic of Change.

But, its whole object involved tackling the creation of the wholly new, as he was aware certainly happened in Thinking! So, it was clear he had to investigate the crucial interludes, when such qualitative, conceptual leaps occurred, to reveal what was actually happening.
[Surprisingly, human beings thought just like he did, but, unlike Hegel, they hadn't the faintest idea of what actually occurred in generating new ideas. The processes of the mind were wondrous but inexplicable to them.]

In actively seeking such creative events, Hegel happened upon what he termed Dichotomous Pairs of concepts, which were clearly directly contradictory ideas, which couldn't possibly both be true, but which had nevertheless seemingly emerged from the very same generally-agreed

premises! And, Mankind, whenever this happened, always found themselves at a logical impasse.

They simply couldn't use Formal Logic to go any further, so they merely terminated that line of reasoning, kept both arms of the dichotomy, and switched between them entirely pragmatically.

Hegel knew that these impasses AND their pragmatic work-around, had to be dispensed with. He had to unearth the actual causes of these Dichotomous Pairs, and somehow, find sound "logical" way to transcend both, to reach solid and developable ground beyond them.

He had the ancient example of Zeno's Paradoxes as an obvious starting point, for they demonstrated clearly the inadequacies of Formal Logic in dealing with them. Zeno, some 2,300 years earlier, had noticed the dichotomous pair Continuity and Descreteness, and proved their total contradiction via his cleverly constructed Paradoxes. It was, indeed, an ideal place to start, for since Zeno no one had made any further contributions to such contradictory concepts, and, certainly, if anyone did transcend a pair of contradictions, it certainly wasn't then turned into some sort of generalised method.

Hegel set himself the initial task of revealing the source of the contradiction, and, thereafter, devising a reliable method of always being able to transcend the impasse, thus opening up such dead-ends in reasoning to further developments.

Now, this task was by no means easy! Within the Formal Reasoning tradition, there really was no way of explaining such contradictions at all: it had to involve very deep-seated and often implicit assumptions, that users were not even aware of, and, if revealed would undermine long established methods and consequent conclusions too.

His initial discoveries were that Dichotomous Pairs always occurred at some point, and when they did that would permanently terminate that line of reasoning, full-stop! Now to dissuade any efforts in this direction. an essential "by-pass technique" had become the pragmatic work-around: the "use what works" trick! But, clearly, such frigs merely papered over something very important and wrong in normal reasoning methods.

The affect upon the cornerstone assumption of Reductionism was clearly evident.

Every single line of reasoning would always be terminated by this same phenomenon. And, yet the overall stance of strict causality from bottom to top was still adhered to, though, in its current premises, it couldn't possibly be true.

Human understanding came to look like a much divided bush of logical reasoning, with every single (or terminal twig) ending in one of these impasses.

"Wisdom" had now declined into merely knowing which arm of a dichotomy to take - like leaping from rock-to-rock across a raging stream.

Hegel finally realised that qualitative change was the problem: dealing with fixed, unchanging entities and even Laws would always end that way: it was a strictly limited system. And, the solution could be no easy fix.

The dichotomy marked the point at which some sort of qualitative changes were occurring, and switching around between formal and fixed laws couldn't possibly resolve the problems.

Deep below the resulting Dichotomous Pair, there had to be a very different kind of qualitative process, that didn't have a single outcome, but at least a Pair, and any "law" to be revealed had to change with differing circumstances to give both outcomes!

Hegel had to dig deep enough to reveal the fixed erroneous premises, where a variable law should be. The task was not only to bring out the key premises, but also criticise and replace the cause of the problem. If this was done then the anomaly at the top level would be removed. The impasse would have been transcended!

Indeed, the key mistake was in subscribing to the Principle of Plurality. Clearly, Reality was not a mere addition of multiple fixed Formal Laws: it actually in certain circumstances changed qualitatively. The reason for the inordinate delays in addressing these anomalies is understandable. For, what was necessary was a major change in premises, not just for an individual impasse, but for all of those caused by these universally assumed, but rarely overtly stated assumptions.

To break through was more than dealing with a particular problem, it meant a positively wholesale revision, with consequences everywhere. And, it didn't help that the old to-be-replaced premises could still deliver required outcomes in appropriately arranged-for circumstances.

Why should there be a revolution, when individual solutions were still possible, for productive ends, in carefully arranged-for circumstances?

The major imperative for change was philosophical! It was about Understanding rather than mere Effective Use, so it was never a priority!

And, of course, being a philosopher, Hegel's achievements didn't impact a burgeoning growth in Science, and wouldn't to this day 200 years later, while it was exclusively about human thinking.

Only when Science itself was brought to its knees by irredeemable cascade of such impasses, would the challenge be imperatively addressed, and even then as a Revolution, rather than an adjustment!

It also required the next stage, which was to extend it to all areas of thinking and indeed, all areas of Reality too: it had to be transferred wholesale from Idealism to Materialism.

Now, this was achieved by Hegel's best student, Karl Marx. But, Marx's applications, even though he was fully aware of their power across the board. Were focussed primarily upon Economics, History and Politics. The important full-scale application in the sciences did not occur.

Now, as this researcher (Jim Schofield) discovered in his own work in this area, at the present time, the "thinking solutions" recommended by Hegel in revising erroneous premises were too concerned with Logic. Yet, the premises discovered to be crucially at fault in Science were not just with regard to concepts.

They definitely included contents as well as conceptions of Reality. For example, the long held idea of a Universal Substrate, even though its existence was never proven and it was totally dropped in Physics, this "physical premise" has turned out to be the most important error transforming Physics, ever since the discovery of the Quantum in the late 19th century.

Indeed, literally from that moment onwards, physicists made retreat after retreat, until at the Solvay Conference in 1927, Einstein and other classical physicists were defeated by Bohr and Heisenberg, when they persuaded the majority of those attending to subscribe to their purely mathematical Copenhagen Interpretation of Quantum Theory.

At no point did any scientist take on Hegel's (and more importantly Marx's) criticisms. For, though Hegel could be dismissed as an Idealist, Marx should not have been, for he was a Materialist!

And, hence, no investigation of premises was undertaken, instead, the whole fabric of physical explanation was dumped, for the "supposedly primary" determinations provided by Purely Formal Equations. In effect, Theory was abandoned for pragmatism and formal equations - as the driving essences of all Reality. Sub Atomic Physics became a purely abstract sub-division of Mathematics.

So, for the last 200 years Hegel's gains have never been generally applied in any Science, except unintentionally by holist scientists such as Charles Darwin, Alfred Russell Wallace and later Stanley Miller.

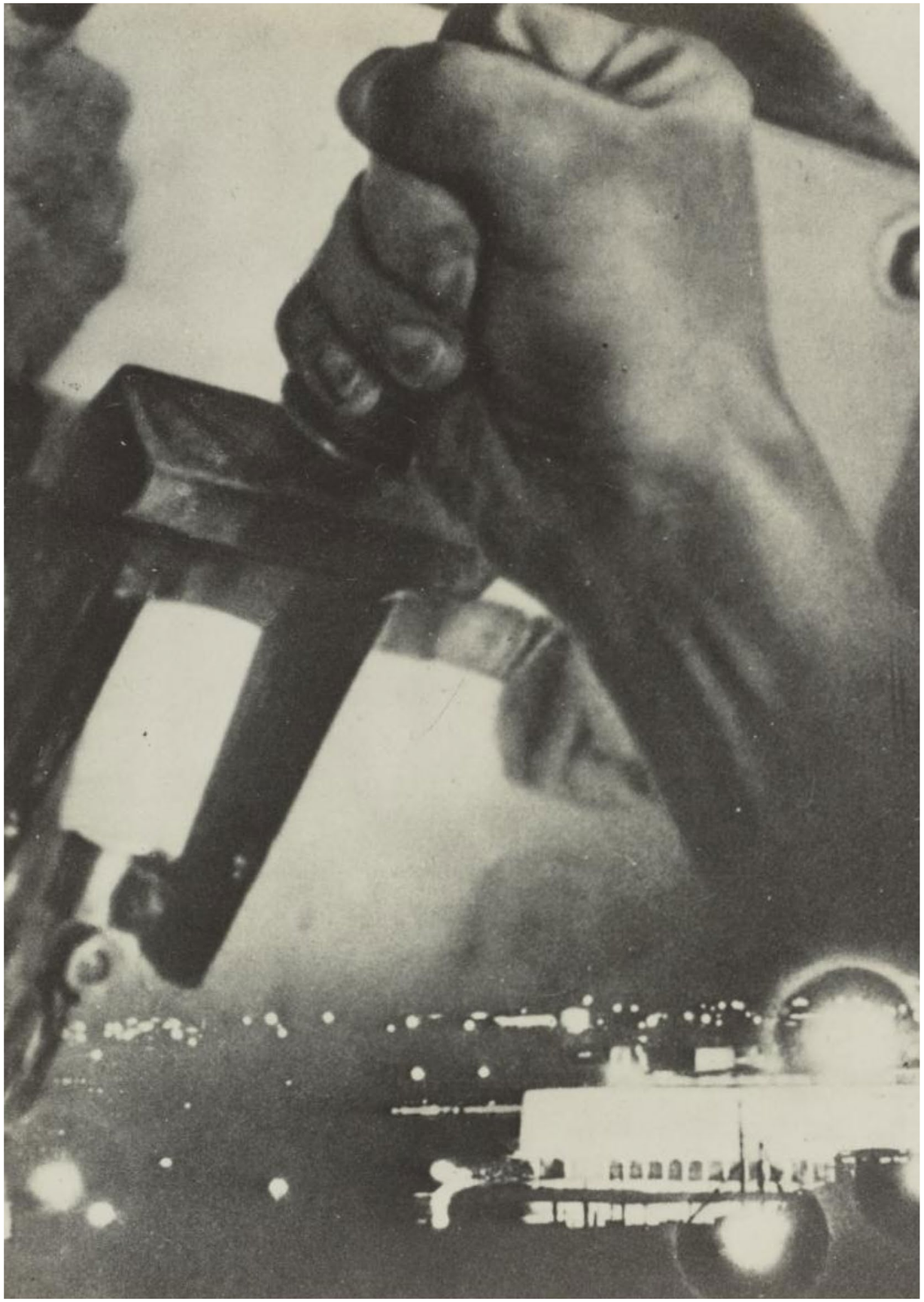
You would have thought that Hegel's revelations would have changed their World, but they certainly didn't think that!

Human Thinking was not only considered a "foreign" and incompatible tradition to Science, but was considered merely as a transparent conduit for "Real Formal Ideas and Relations".

Hegel's criticisms cut no ice with scientists, who were committed Materialists, and had no truck with Idealists such as Hegel.

Dealing as they did with eternal Formal Laws of Nature and their precise embodiment in formal equations, they were convinced that carrying on in the same way as before, they would ultimately have all the equations they needed to explain everything.

Even though the relevance to all knowledge had been realised by Hegel's best student Karl Marx, who along with several other Young Hegelians, decided to move all Hegel's gains over wholesale to a Materialist standpoint.



But the whole group were philosophers, with not a single scientist involved.

Now, this group realised that the possibilities that they had transferred over were all-embracing, and would apply to all concepts and reasoning, but because of their specialisms, they naturally started by applying them to the things they were most familiar with such as History, Economics and Politics. In those areas they made significant, indeed, revolutionary contributions. But, in spite of making it clear that Science would also be transformed, none of them were in a position to do anything fundamental about those possibilities.

The Dialectics of Nature and *The Part Played by Nature in the Transition from Ape to Man*, were valuable indicators of direction, but professional scientists were needed to be recruited to address the major problems in their disciplines. And that did not happen!

Science was never given the necessary attention, and was unaffected by the Marxist revolution in other areas.

But, though there was no one to predict the inevitable crisis in Science, it happened anyway,

For, the 200 years since Hegel's important contributions and even Marx and Engels transfers to materialism, none of it had the least effect upon the scientific community, who increasingly as the years rolled by were less and less concerned with philosophy, and still in the 21st century have a contradictory set of bases as their underlying premises. They may have overthrown their classical amalgam of materialism, idealism and pragmatism for a more limited dependence on Form alone, which, if anything, can only be a step backwards into a fairly consistent idealism. They still hobbled along with a contradictory stance, but now it involved Pragmatism and idealism in preference to Materialism!

The , now very long-in-the-tooth imperative of carrying over Hegel's achievements into the heart of Science, still requires to be achieved. And, clearly, with the scientists hostility to such encroachment into their realm, the only possible assault, just had to be a head on attack upon the Copenhagen Interpretation of Quantum Theory, and particularly upon its main cornerstone - the famed Double Slit Experiments.

Both these have been adequately explained by the gains of Hegel and Marx, and the rubbishing of the current theories of quantization are now almost complete.

All we need is for some physicists to be confronted with these results.

The Eternal Golden Braid?

Reality is indeed complex!

But, what kind of complexity are we talking about? For, in "Mathematical Chaos and Complexity Theories" there is a special kind of "emerging" phenomena suggested, which are very different, indeed, from any holistic view of an Emergence, as a creative and, indeed, Revolutionary Event. So, let us attempt to clarify.

Starting with Laplace we had the classical idea of Causality, where natural causes produce entities or situations , which, in their turn, can cause another layer of complexity - but completely predictable from the causalities involved.

Now, such a sequence delivers a wholly linear conception, which can always be traced both forwards – as Prediction, and backwards - as Reductionism. Yet, attempts to trace backwards never succeed beyond a few, same-level, steps, and can never be carried through-and-beyond any full-blown Emergence Event – in either direction! So, such conceptions are rarely held with conviction these days.

Yet, versions of such are still legion, including the fabled "Complexity", wherein many such simultaneously-present, "linear causalities" produce overall mixes of consequences, which can have very different results and varied overall properties.

It is these higher level consequences that are incorrectly termed Emergences – because they seemingly "emerge" from a given complexity,

In such cases, an important principle is involved, though only very rarely overtly stated. It is the crucial Principle of Plurality, which effectively asserts that that all the causal strands involved are completely separable, and the resultant, "combined laws" so coming out from that situation are considered eternal!

With such a premise, the validity of the widely-used statistical approach is said to be confirmed, and many "Laws", of such a composite nature, can be revealed and used. And, theoretically, at least, the causal strand is involved, and, being "totally separable", can be traced back. But, it doesn't take a great deal of research to undermine the assumption of Plurality, for it can never explain any kind of qualitative change, nor, most important of all – the actual Evolution of things.

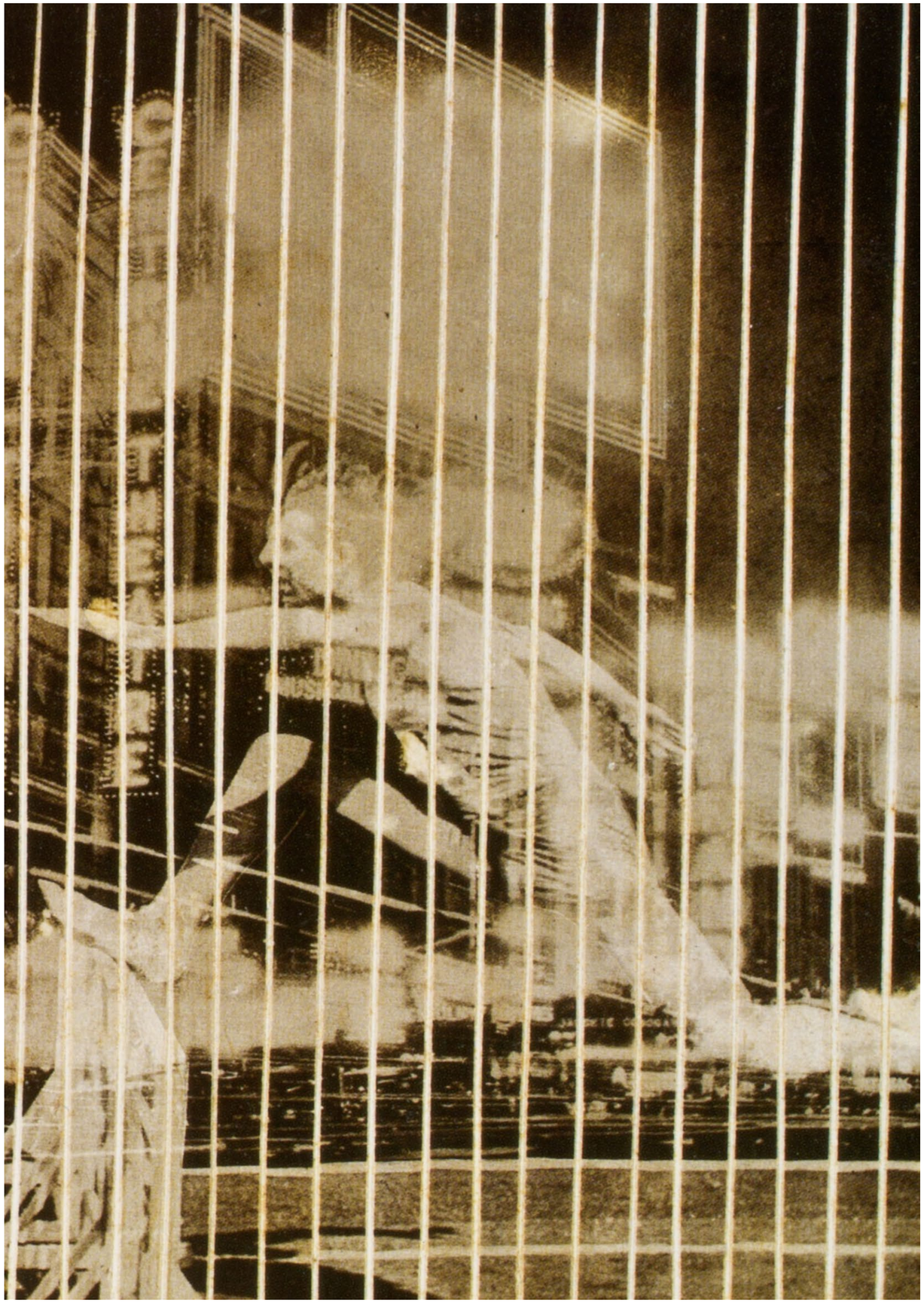
To attempt to reduce Human Thinking, in such a way, is derisory. Indeed, you simply can't! Plurality has been useful, especially in carefully designed and maintained situations, but it certainly isn't true generally. It is a pragmatic trick!

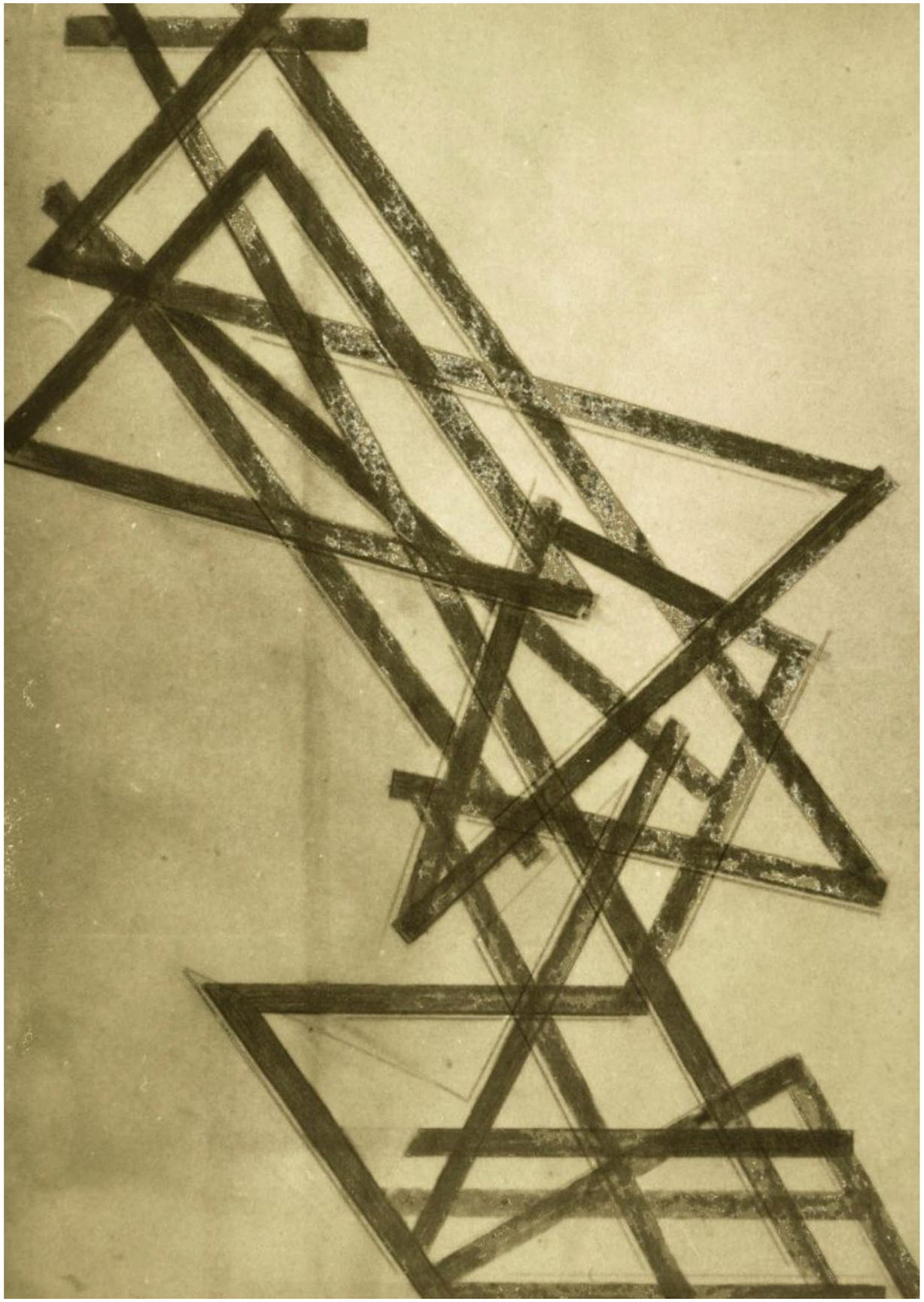
So, what other way of dealing with Causality do we have? It has to be the opposite conception to that of Plurality – indeed, it can only be that based upon the Principle of Holism. For, within that concept, "Everything affects everything else!" And, this means that any found relations are NOT separable! There can be NO eternal Natural Laws, such as those assumed to be delivered by carefully organised pluralistic experiments. What Plurality delivers is a simplified and idealised general relation, which will always vary in different contexts, due to its unavoidable modification by everything else!

The pluralist route can give us a first order of approximation, as to what is actually going on, but it does not deliver the fabled eternal Natural Laws!

Clearly, to impose such fixed Laws in all contexts is erroneous. If the reader doubts this analysis let him consider the USE of pluralist Laws. To ensure that they are obeyed, the exact same conditions as were necessary for extraction have to be replicated in use! If a complex item is to be manufactured, it can never be achieved in a single, fixed context: every single step of its construction will require the right conditions for each Law used – sometimes quite separate factories are the only way to achieve success, with each specialising in its own limited set of processes!

So, how are we to consider so-called Complexity? For, surely, that is actually the simultaneous occurrence of multiple causal effects, all happening in the very same context?





It cannot be that the pluralists' eternal Natural Laws are acting, exactly as they were found, each one in its own special tailor-made circumstances. So, the simple addition of those Laws (exactly as found) has to be incorrect.

While Plurality is supposed to just "weave-them-together unchanged" – in an "Eternal Golden Braid", Holism sees them unavoidably affecting one another, which can result in an overall effect – they have all both "changed and melded" into an overall effect at a higher level!

The combined result cannot simply be analysed from a summation of the unchanged, "separable" components involved. They will all have new forms in such a combined context – more like the formation of a functional "tissue" than a mere knitted braid of unchanged parts. The various contributions have been both changed and merged into something else, with its own properties.

Pluralist analysis may correctly identify what components were involved, but it will say nothing about HOW they have been changed, and HOW the forms behaved to produce what finally came about!

The alternative the holistic version of an Emergence, involving different orders of complexity, can, indeed, be meaningful at every level of Reality, all the way to Human Thought.

But, though the analysis is assumed to be easy in an assumed to be pluralist world, it falls to the ground in an holistic World. For, we cannot merely separate each and every cause, and manipulate them into an "explanation" of the higher level behaviours merely via the "addition of fixed Laws". We have, on the contrary, to see what Qualitative Changes are most certainly involved, which can never be derived from the "producing" level. There is, though, a chance that, once occurring, the new situation could be explained NOT purely as a summation of separate and fixed causes, but as the creation of something wholly new, where possibilities are instituted with completely new properties. Indeed, real Development or Evolution requires such creation: it can be explained no other way!

Yet, such things don't necessarily happen immediately, or even automatically. In fact, they are rare, and are usually stopped from occurring for very long periods, by prior inhibitory structures, which we term Stable Systems.

These Stabilities are largely self-maintained Systems, which intrinsically react to prevent innovation and maintain the status quo, against any significant Qualitative developments.

Now, this role of Stabilities modifies the trajectory of changes in such Systems radically. Normally, such Systems resist change for long periods, but are never permanent set-ups.

There will always be crises, which are resolved to re-establish an adjusted version of the Stability.

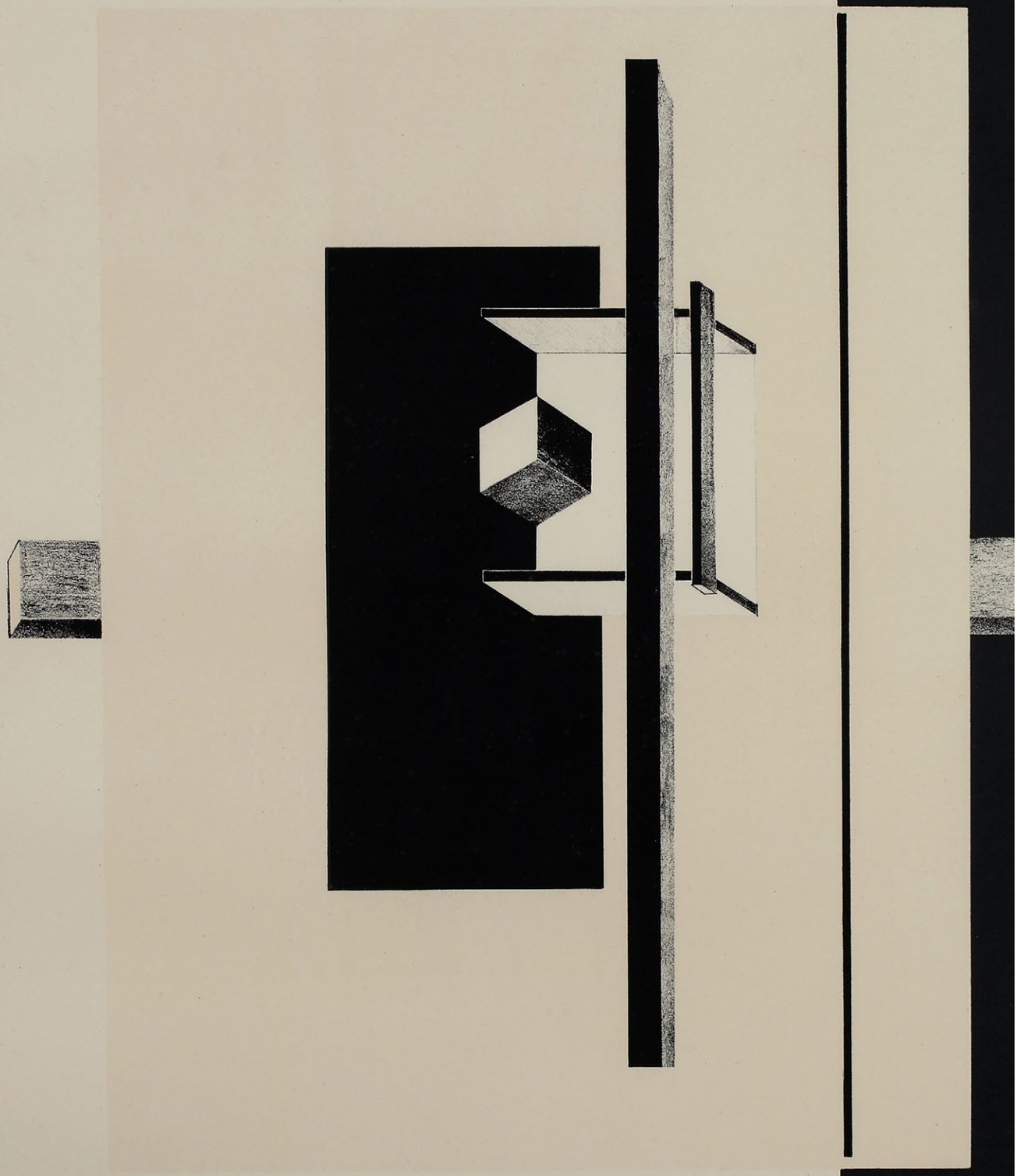
But, always, changes at some point in a crisis, are sufficient to precipitate a wholesale collapse that is not recovered, but swoops ever downwards into a total dissociation of the prior System.

But, it must be emphasized that it is the system-maintaining-factors that are overwhelmed: the majority of the contained processes continue as before, but are no longer constrained into a persisting System of Stability.

Now, what we end up with is "something like" Chaos. For, now innumerable processes are un hindered and all continue without restraint. This transforms the situation radically! Inter-relation associations occur, and multiple mini-systems, of kinds previously prohibited, now grow unhindered, and gradually a new Stability is constructed. Interestingly, the key solidifiers of the new system, will be its defensive processes to prevent competing alternatives from getting a hold.

With the integration of cooperating processes and the defensive palisade of prohibiting policeman processes, a Stability finally emerges.

ISSUE 44 MAY 16 JIM SCHOFIELD



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