The Medium of Contingency

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Abstract

Metaphysics has traditionally represented contingency via the modality of possibility. Contingent being is thought via the different being that it possibly can be. We claim that this mediation is an improper “exchange” of contingency. It collides with what Baudrillard calls the Impossible Exchange Barrier.¹ If contingency is to be thought absolutely, it must be thought independently of the map of possibilities. The notion of possible states must be eradicated throughout and Meillassoux’s factual speculation should find its adapted medium instead. We investigate what this alternative medium may be. Physics (instead of metaphysics) can be our guide, because quantum mechanics acts precisely at the level where the range of possible states is not yet decided. It strikes “behind” the scene where things are, precisely at the hinge where they can be. It is not in probability that absolute contingency will find its right mediation or translation, but in a material medium that will replace probability altogether. Consequently, the necessity of contingency will no longer be intellectual but will become plainly material – speculative thought having itself undergone the same material exchange as the one granting the proper translation of the strike of contingency.

Absolute contingency

In this article, we propose an alternative treatment of contingency – one that doesn’t unfold in time and never leaves the place where contingency strikes. “The world emerged at a single stroke,” Baudrillard writes in Impossible Exchange, and this is why “it cannot have any determinate meaning or end.”² Only because we are accustomed to exchanging contingency against metaphysics and against its characteristic division of the world into “states of the world” (following the canon of probabilistic thought) do we interpret contingency in a differential or disintegrated fashion. We think of the contingent thing as the superposition of

²Ibid., p. 9.
two thoughts: the thought of the thing as it actually is and the thought of the other thing that it could have been, or that it could be.

Actuality alone is obviously too short to transmit the sense of contingency. Contingency has a sense; it is an arrow, something alive and vibrant and not petrified in actuality. It is an event, a happening, an upheaval of matter, and we can hardly resist making sense of it or trying to exchange it. For this reason, Meillassoux’s proposal to hold contingency as only absolute, and to overturn both materialism and metaphysical speculation as a result, is truly challenging.

Contingency is a single stroke. It is the thought that things are the way they are without a remainder or a reason or a return to the initial causes. The stroke is faster than the reflected light of reason. (For this reason, it requires a new brand of speculative thought, called factual speculation.) To be true to the single and absolute stroke of contingency, one has therefore no longer to think of contingency dually, as the “being” of a thing that could have been or could be otherwise. One has to think the stroke, not the extremities (and if one cannot think the stroke – for to think and conceive is to represent, that is to say, to duplicate what cannot be duplicated and to exchange what cannot be exchanged –, one probably will have to repeat the stroke). One has to bracket the word “being” and think instead of what the thing can be, putting the emphasis on the word “can” as single and undivided matter, or mark.

Contingency strikes in place. It says at a stroke that a thing is what it actually is and – at the same time and in the same sense – that it could have been different. My contention is that the metaphysics of possible states and chronological time has taken from the start the wrong direction in which to make sense of contingency. If a speculation like Meillassoux’s must bring our thought flat against the matter of absolute contingency, with a flattening of the depth where we would have searched for the reason why things are what they are and not otherwise and with the flipping of ontology from the side on which things are to the side on which things can be and if, correlatively, contingency has to be thought independently of any division of underlying states in which the contingent thing possibly can be something or other, then the step back from contingency – for only by stepping back from its absolute strike are we able to make sense of it and unfold the expanse where it can be thought speculatively – should take place in a direction and through a medium that maintain the absence of reason and the absence of states.

Something has to be exchanged from the beginning; a philosophical decision has to take place right at the start, in order to set the thought of contingency on the right course. If factual speculation is speculation without the reflected

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light of metaphysics, literally without the mirror of necessity or even the eye of possibility, then one should be able to continue thinking of contingency without turning back, to translate and literally move in space its single stroke – to extend it and prolong it, or in a word, to repeat it and create its concept (to write a book about it?) – without reproducing the states of possibility and without even going through chronological time. Chronological time might even be the direction to avoid above all, for it furnishes the stages where the states of possibility unfold in succession. It may sound indeed as if factual speculation should take place before ontology, yet the challenge is to perceive in exactly what sense it is a speculative realism and not a mere philosophy of sense.

Meillassoux’s absolute contingency is not a thought of absolute change or absolute becoming. Meillassoux is open both to the absolute possibility of change and to the absolute possibility of no change. As a matter of fact, the thought that the actual thing “can still be different” is not future-tensed. It doesn’t necessarily imply that the thing will change. It is as of now, at present, or rather, in place (au lieu de), that an exchange takes place and that, instead of thinking that the thing is, the proposition is to think that it can still be different. (Crucially, the word “still,” here, is not synonymous with movement and change; it literally means the opposite.) I interpret the proposition as the refusal to admit that an actual (yet contingent thing) is in a state, not as the intimation that it should move into another state, or even that there are states that it can possibly be in.

To repeat, flipping the verb of ontology from “to be” to “can be” is not a shift from being to becoming, for becoming is only a succession of states of being. Contingency is to be purified even from possibility, when the latter is defined relatively to states. This is what makes factual speculation so incongruous with metaphysics. It is not even anti-metaphysical; it is the other of metaphysics. By the same token, this is what makes Meillassoux’s later move (using Cantor’s theorem of non-totalization of possibilities as the way of defending absolute contingency against the probabilistic argument that the laws of nature would consequently exhibit erratic change) so puzzling indeed. Probably Meillassoux didn’t suspect the alternative direction that I am hinting at, in which I claim absolute contingency should be translated and possibility not even mentioned.

I interpret Meillassoux’s overturning of metaphysics as an attack against the notion of state (the replacement of “to be” with “can be”). How else, indeed, can contingency come before existence and existence be literally derived from it (as in Meillassoux’s factual derivation)? States that a contingent thing possibly can be are the coordinates of contingency in a representational space that is mapped by possibility. However, to really think of contingency absolutely, we should be able to think it independently of any system of coordinates, in exactly the same way that we think a vector in space independently of its Cartesian coordinates. That a thing “can still be different” is simply the minimum negation of the proposition that it is necessary.
Pierre Menard

The alternative plane (or direction) of contingency that I wish to explore is non intuitive indeed. One way of “feeling it in the dark” is to think of the work of Pierre Menard, author of the *Quixote*. Within the space of literary texts, the *Quixote* is fated to its actuality. Cervantes has finished writing it; the text now actually exists and can no longer be another possible text. In this sense, we can say it is unpredictable because it is now altogether meaningless to predict it. My alternative reading of the word “unpredictable” (corresponding to my alternative plane) is that the actual and finished *Quixote* is deemed unpredictable because there are no possible states left in the enclosure of which prediction can play out.

Now the *Quixote* is a contingent text. It remains so even when all possibilities are over. When it is not actualized, when it is still a possibility open to Cervantes, we think it is unpredictable because we don’t know what possibility it will finally settle in. We confuse its contingency with its unpredictability in that sense. However, Pierre Menard is here to remind us that one can still write the *Quixote* even when the possibilities lying ahead are reduced to a single one, exactly as they are at the expiration of the text. Indeed, Pierre Menard has set out to write the actual *Quixote*, not another text. Yet Pierre Menard is not dead; he has not yet reached the end, what I call the “expiration” of the text. He is not done writing. Simply, he has managed to recede from the strike of contingency of the *Quixote* into another space than the space of alternative states and possibilities. (He has receded in another dimension than chronological time.) He, too, writes an unpredictable text, although not in the sense of unforeseen possibilities. His possibilities are not even there to be seen; they simply don’t exist. By extrapolation, there will be nothing to predict either for anyone carrying out tasks, like Menard’s, that are adapted to the space of writing. In that essential space, which is in line with contingency and independent of possibility, it is only accidentally that possibilities and chronological time get into the way. As Baudrillard writes:

[The world] cannot be exchanged for anything. There is no equivalent of the world. [...] No equivalent, no double, no representation, no

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5Pierre Menard is a fictional character created by Jorge Luis Borges (J. L. Borges, *Pierre Menard, Author of the Quixote*, in *Collected Fictions*, trans. A. Hurley (New York: Penguin Books, 1999), pp. 88–95). Menard is a twentieth-century Frenchman who has dedicated his life to writing two chapters of *Don Quixote* – not a modern adaptation, but the *Quixote* itself, using exactly the same (Spanish) words Cervantes has used. Menard’s book has a completely different meaning than the original *Quixote* and, according to Borges, is in fact far more profound.

6As Pierre Menard explains: “The *Quixote* is a contingent work; the *Quixote* is not necessary. I can premeditate committing it to writing, as it were – I can write it – without falling into a tautology” (Ibid., p. 92). To which I may add that only because Menard is writing the perfectly actual yet contingent *Quixote* is his work not a tautology. To anticipate, this clearly designates writing as the material medium in which contingency can be thought separately from possibility – so separately indeed that writing an existing text is deemed an original work and not a replica.
mirror. [...] There is no integral calculus of the world. A differential calculus, perhaps? “The Universe, made up of multiple sets, is not itself a set.”

Prediction is always relative to a given representation. When the contingent world is envisaged at a stroke as a non-totality and a non-state, as such unexchangeable, its unpredictability no longer means the unpredictability of its future behaviour, but more basically, the present and static lack of distinction and delineation of any state.

Now we wish to recede from the stroke of contingency and move backward in time, while maintaining this strong sense of unpredictability and trying not to mix it up with the usual sense of relative unpredictability of outcomes. We wish to exchange the very thing that Baudrillard says is impossible to exchange without contradicting Baudrillard. If exchanging the world is indeed deemed impossible, might not the hint be that the only possible exchange of absolute contingency has to take place outside possibility? Just as Meillassoux has missed the alternative direction in which absolute contingency can be mediated, Baudrillard has missed the alternative to the impossible exchange.

Quantum mechanics

So we start with the strike of contingency and we wish to move backward and to explore a space, or a medium, that will be alternative to possibility and its states. Metaphysics has taken the wrong direction, moving backwards into possible states, and speaking only of the unpredictability of outcomes. In fact, the image is deeper than the apparent coincidence of contingency and possibility. There is a leeway between the strike of contingency and the moment metaphysics decides (wrongly) on possibility. If contingency is real and material, if contingency is a matter of ontology and precedes even existence (which, according to Badiou, is the subsequent matter of logic\(^8\)), if contingency is physical, then the interval in question will simply be the interval between physics and metaphysics. It is right in the heart of fundamental physics, in exactly the place where objective probability has recently been recognized to attach irreducibly to nature, that we shall debunk the metaphysical decision to represent contingency via possible states.

Before the advent of quantum mechanics, probability, even in its objective brand known as frequentist probability, was not believed to materially inhere in nature. Probability was only a metaphysical reification. How the concept of

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objective probability emerged, according to Ian Hacking, is through the historical combination of two phenomena: the erosion of the doctrine of determinism and an avalanche of numbers that the statistician was finally able to tabulate.\footnote{Cf. I. Hacking, \textit{The Taming of Chance} (Cambridge: Cambridge University Press, 1990), pp. 1–10.}

Being historically dated, the concept of probability is thereby contingent. This suggests that an alternative concept is perfectly possible, with which we might just translate contingency.

Only because statistical regularities have emerged on top of what could only be described, otherwise, as a flurry of irregularities, and only because determinism was independently giving way on account of deterministic chaos or statistical physics, was the move legitimate to posit a random generator that was supposed to probabilistically generate each individual instance of the statistical population. The metaphysical realist, who would not satisfy himself that chance is just another name for the flat evidence of statistical series, could thus speak of statistical or probabilistic laws, which would come and replace the deterministic ones that were dear to his heart. Random generators subsisting in the domain of physics are truly objective and some of them are truly irreducible but this doesn’t stop them from being metaphysical posits. As a matter of fact, the notion of generator is correlative with the notion of state (hence the metaphysical implication).

Take a mental note, for later, that the notion of generator may also have to yield in front of contingency.

It is only with the advent of quantum mechanics that objective probability was finally offered a chance to become physical and to physically inhere in the single case (and no longer to be metaphysically reified and extrapolated for the single case from the statistical population). Popper speaks of this single-case probability as a \textit{propensity} that inhes in the particular physical situation and is “generated” by it. He remains critical enough a philosopher, though, not to lodge this mysterious propensity in the object itself. He writes: “[Propensities] are not properties inherent in the die, or in the penny, \textit{but in something a little more abstract, even though physically real}: they are relational properties of the total objective situation.”\footnote{K. R. Popper, \textit{Realism and the Aim of Science} (London and New York: Routledge, 1983), p. 359, my emphasis.} In this, Popper opens an interval between the \textit{physically real} and the \textit{object} – an “open realism,” as Bernard d’Espagnat will later dub it, to be contrasted with the more stringent objectivist realism.

There is a gap between the “real” source of quantum indeterminacy and the language of probability, which \textit{can only be the probability of observations} in the present case. What Popper didn’t perceive is that, due to this gap, what will finally be found to “inhere” in reality is not even probability; it is something else. When quantum mechanics is scrutinized, one finds no random generator and no objectivist source. If anything, the source of indeterminacy is a subtraction rather than a salient feature such as the positive word “generator” may suggest. Perhaps
the main lesson of quantum mechanics is that the notion of object and property, and correlative of possible state whose actualization would be the observation that the given object bears the given property, is only a derivative notion. What is absolute and not derivative, what precedes the stage of objectivation, is a vector that is independent of the particular range of possibilities on which it will eventually be decomposed. It is the stroke of contingency. It is called \textit{vecteur d'onde} in French, or \textit{wave function}.

The source of indeterminacy in quantum mechanics is not intrinsic probability. The reason why philosophers of quantum mechanics like d'Espagnat and Bitbol insist that quantum probabilities should be interpreted as probabilities of measurements (the Born rule), and not as probabilities of events taking place behind the scenes, is not just excessive empiricism.\textsuperscript{11} It is that the crystallization of the range of possibilities whose elements are assigned the relevant probabilities is \textit{concomitant} with the contingent choice of the particular experimental setup that is intended to measure the specific observable (for instance, position or momentum of the quantum particle). The event whose probability we are supposed to measure over given states is taken over by an event of immeasurable probability: the event first deciding the range of possible states.

It is not even true that the range is decided and then the probability-bearing event is picked or generated. Indeed, a theorem, shown by Paulette Destouches-Février, establishes that a theory such as quantum mechanics, which articulates predictions at the meta-level where it is recognized that a range of possibilities can be incompatible with another and the corresponding observable not com-possibly measurable with another (the so-called conjugate variables), is \textit{essentially} indeterministic.\textsuperscript{12} To my mind, this very deep result is \textit{onto-logical}, not ontic. It doesn’t show indeterminacy to inhere in nature, thereby pinning it down on some essence. Instead, it redefines the word “essentially.” Indeterminacy is intransitive; it is the absolute background; it is nature; it precedes the notion of object or state and there is no first ground in which it may be said to inhere.

One must always keep in mind that probability and random generator might just be artefacts of our objectivistic language, whereas indeterminism is, \textit{in reality}, something “older” than being or state or metaphysics altogether. Quantum mechanics may just be the first and final word concerning reality or the strike of contingency – a word older than the later exchange of reality against concept or word. To speak like Derrida, the stage of quantum mechanics, or the unmediated translation of the strike of contingency, may just be the \textit{writing} of reality. Translating the \textit{point} of the wave function may just have to take place in writing, not in possibility. Accordingly, factual speculation, or the continuation in thought of


the strike of contingency, may never issue in ontology or cross the path of positive science, but may have to keep materializing contingency and maintaining its tension and risk in its adapted medium.

It might be very difficult to mediate, or translate, the instant stroke of contingency (that is to say, to leave that instant or to write after it). All instances of mediation and representation, even speech, may very well be indebted to the framework of possibility and expectation, and infected by it. Deeply embedded in our logico-linguistic framework are “invariants that are extracted from the Heraclitean flux” by the operation of what Michel Bitbol calls “schemes of reciprocity.” These schemes “enable anticipation of what will occur and rely on methods for reproducing situations.” They constitute our capacity of “freeing ourselves as much as possible from the irreversible aspects of any concrete situation.”

Speech is thus based on the “reciprocal play of beings,” whose other name is possibility. It is constitutively linked with probability. So we wonder: How to speak of absolute contingency – how to possibly mediate it – without compromising at any point with probability or even with the very idea of mediation, without submitting at any point to Baudrillard’s impossible exchange?

Semantic factualism

Baudrillard speaks of “uncertainty in physics” arising from “the fact that the object, in its turn, analyses the subject” and of the “uncertainty of thought” coming from “the fact that I am not alone in thinking the world – that the world, in its turn, thinks me.” This certainly sounds like the credo of correlationism. Object and subject, world and thought, seem to be co-defined by each other, and incapable of escaping the circle of their correlation. With Meillassoux, however, we know that the circle leaves something outside, which is precisely the thought of the absolute contingency of this correlation. (Baudrillard wouldn’t speak of “uncertainty” if this weren’t accountable to some outside.) As Meillassoux writes: “Certainly, the presence of an observer may eventually affect the effectuation of a physical law, as is the case for some of the laws of quantum physics – but the very fact that an observer can influence the law is itself a property of the law

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14To put it in Badiou’s words in his book on Deleuze. The full quote is illuminating for our later distinction between the possible and the real: “To the extent that what one assigns to thought is the exploration of the simple abstract possibility and the closed reciprocal play of beings, rather than the extraction of that share of beings that is virtual, and therefore real, one still certainly constructs a plane or a consistent section of the chaotic ground. This plane, however, only ‘refers’ beings [...]. It does not attain the ground” (A. Badiou, Deleuze: The Clamor of Being (Minneapolis and London: University of Minnesota Press, 2000), p. 46).
which is not supposed to depend upon the existence of an observer.”

Meillassoux may not be aware of the degree of correlation between subject and object in quantum mechanics. In keeping with the received view, he believes that the observer perturbs the objective law only incidentally. From the work of d’Espagnat and Bitbol, however, we know that the “influence” is much deeper than this and that the subjective intervention, or the experiment, is constitutive of the object and of the very range of possibilities that defines it. In a word, the epistemology of quantum mechanics – not as a theory of knowledge, but as the logic of science or the very relation between subject and object – is more Kantian than Meillassoux has ever dreamed. However, that this should be the case, or the thought of this from the outside – what Žižek calls the “speculative crux of Meillassoux’s argument” or the “passage from (or reversal of) epistemological limitation to (or into) positive ontological feature” –, is, therefore, all the more hospitable to absolute contingency since the stroke of contingency – what I have called the point of the wave function – now literally reaches behind beings and their possible states. By d’Espagnat’s and Bitbol’s (and Kant’s) own lights, it reaches exactly to the domain of the “can be.”

The thought that the contingency of the correlation is unsurpassable is very close to the thought that the world is unexchangeable – that it is without “a determinate meaning or end” – and the two of them are very close to the thought that existence is therefore produced out of nothing – a word that I interpret, in Baudrillard, as meaning “absolute contingency” rather than the absolute void. Indeed, Baudrillard writes:

> The Nothing is the only ground – or background – against which we can apprehend existence. It is existence’s potential of absence and nullity, but also of energy (there is an analogy here with the quantum void). In this sense, things only ever exist ex nihilo. Things only ever exist out of nothing.

The answer to the fundamental question of metaphysics: “Why is there something rather than nothing?” therefore is that contingency is the only absolute and that something, rather than nothing, is then deduced from it.

There is always a very fine line separating those who think that correlation is the final word and those who crave an outside. If there is indeed a leeway between reality and the representation of reality; if, as d’Espagnat says, the realist can be generally defined as a thinker who tends to identify the features

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of the observed phenomena that make up representation with elements of mind-independent reality and if, more specifically, what d’Espagnat calls the *objectivist realist* is a thinker who insists that these features are “the remarkable stability of some groups of impressions, named ‘objects,’ positions and forms of objects, numerical values of these quantities, etc., on the one hand, and counterfactuality on the other hand,”\(^{19}\) then the possibility is open to be a realist in between – what d’Espagnat calls an “open realist,” a realist who is not necessarily an objectivist realist. It is in this opening that I locate Meillassoux’s realism.

For all that, the speculative twist that Meillassoux applies to the correlation may still strike the scientist as purely internal to philosophy – a sort of “reflexive rearrangement of thought”\(^ {20}\) – without any ontological consequences. As J. Alberto Coffa, the champion of objective semantics, writes: “Science is in charge of deciding what there is, and philosophy is in charge of explaining what it is that science has decided.”\(^ {21}\) Recognizing an absolute in the facticity of correlation may thus sound like an overhaul of the meaning of science and of the meaning of our position as thinkers in the world rather than speculation proper. In other words, this absolutization may just be taking place entirely within the precinct of meaning.

Note that Coffa’s whole book is a charge against Kant’s pure intuition. At his hands, objective semantics is also meant to be a break outside the correlational circle. For him and for the philosophers that he considers (the semantic tradition), “semantics is meant to play the role that metaphysics has played for others: the *prima philosophia*.”\(^ {22}\) It is not surprising, in this context, that Coffa should uncover the exact correspondent of Meillassoux’s principle of factuality. He calls it “second-level semantic factualism.” It is the recognition that beyond the first-level semantic conventionalism, beyond the fact that the multiplicative axiom in mathematics is, for instance, a convention and not an absolute truth, one must recognize that the *last* statement, namely, that the multiplicative axiom is a convention, is not itself a proposal for a convention, therefore is absolute. “This is the second-level factualism,” writes Coffa, “the presupposition that there is fact of the matter concerning the difference between the stage at which we produce the semantic machinery involved in communication and the stage at which we


are finally communicating.” Note that the word “absolute” never occurs in Coffa’s book (although the dictionary definition of the expression “fact of the matter” is “absolute truth”). Given that Meillassoux insists, for his part, that factual speculation is speculation without metaphysics, the structural similarity between his move and Coffa’s leaves one wondering – like it did me from the start – whether Meillassoux isn’t above all a meta-philosopher.

Writing reality

As far as science and ontology are concerned, the last word may be absolute contingency: the contingency of everything, including the contingency of necessity. The scientist may satisfy himself with this final word and science may indeed stop there. Now, to insist, on top of that, that contingency must be necessarily thought may just appear as internal to thought, in other words, as a requirement of philosophy. As François Zourabichvili writes: “Perhaps the most general problem of thought is that of its necessity: not the necessity of thinking, but how to reach a necessary thought.” Philosophy must overstep the modesty of science and the “false modesty of all recent philosophy.”

When Meillassoux’s factual speculation starts admitting positive ontological consequences, such as the derivation of existence (the “there is”) from absolute contingency, it can no longer be said to be a reflexive rearrangement of thought. Yet it remains to see how it can possibly connect with positive science. The risk, indeed, is that the “there is” might only be formal in Meillassoux. As Saldanha writes: “[Meillassoux’s] realism requires mathematics (not proof in symbolic form but the idea of mathematical discourse as such) strictly not for description of reality, but for thinking a realm before the discourse of existence.” Absolute contingency may thus appear to be ontologically inert: not an ontogenesis, not the trigger of existence, but merely the thought if fully speculative – that precedes existence.

My own contention is that Meillassoux’s speculation is material and not just formal. It may never admit of material consequences, such as showing us how “this hyper-Chaos freezes into things,” however what is material about it is the medium in which I claim it should be conducted. If there is anything I really

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26Ibid., p. 318.
27Ibid., p. 319.
expect from Meillassoux’s speculation, it is not an end result but speculation itself becoming material (and a book like his being written). Probably an exchange of the result for the condition is required as preliminary.28 The “can be” has to operate an exchange in thought itself, an exchange older than the later conceptual exchange of contingency (pace Baudrillard) against the thought of states and beings.

If contingency is indeed to emerge as the basic material of the world, my claim is that we should follow its trail, or continue its strike, in another direction than its crystallisation into beings. Our material should remain homogenous with contingency and accompany its strike as far as possible, while we keep holding our breath in the period of suspension of ontology – before existence. If contingency must be real and if it must precede existence, then it may very well be that Meillassoux’s philosophy is realism, even materialism, without ontological intention. It is no coincidence if the only expression that Saldanha finds appropriate, at this juncture, to describe Meillassoux’s enterprise is “to write reality itself.”29

I keep talking about the stroke, or the strike, of contingency, and the image of a print, or an irreversible mark, suggests itself. This is not just metaphorical. The mark of contingency is the “can be,” a condition rather than a definite state, a prescription, thus a writing. My whole point is that we should develop contingency in the material medium of writing, not through the mediation of possible states or beings. Perhaps the only point at which Meillassoux’s speculation touches with positive science is when he worries that the laws of nature should not change as a result of absolute contingency. Unsurprisingly, it is at this juncture that Saldanha remarks that “it is a major weakness that Meillassoux cannot tell us what then ontologically explains [the manifest stability of the world].”30 My contention is that factual speculation should be preserved from the duty of explaining. Meillassoux reaches his speculative result fully when he establishes that the only necessity of thought concerning the laws of nature is that they should be absolutely contingent. To expect them to change or not is a different matter, and different from matter. Expectation is correlative with possibility.

Saldanha detects a Wittgensteinian modesty in Meillassoux when the latter

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28This exchange may be so radical that it will no longer be the genesis of reality that we are contemplating, but the genesis of the book. (See Part III of my *The Blank Swan: The End of Probability* (London: Wiley, 2010).) Speaking of Joseph Joubert, Blanchot writes: “He was thus one of the first entirely modern writers, preferring the centre over the sphere, sacrificing results for the discovery of their conditions, not writing in order to add one book to another, but to make himself master of the point whence all books seemed to come, which, once found, would exempt him from writing them” (M. Blanchot, *The Book to Come*, trans. C. Mandell (Stanford California: Stanford University Press, 2003), p. 30).


30Ibid., p. 319.
declares that the only thing he can speak about is what can be, not what is.\textsuperscript{31} However, Saldanha is soon to recognize that “such modesty is just what allows for consistent speculation.”\textsuperscript{32} Meillassoux is modest in his ontological exigencies (the “can be”) but is ambitious in his consistent and far-reaching speculation. My endeavour is to secure the unusual and exclusive expanse in which the speculative ambition is no longer hindered by the ontology of beings, or even possibility. I wish to give the expression “to write reality” its fullest (material, not ontological) sense.

It is the non-totalizing consequence of the chaos he is describing that plays the ontological role in Meillassoux’s system. As he explains towards the end of his book, he strives to derive from absolute contingency a “being possible,” or a condition attaching to the structure of the “possible as such,” such that non-totalization will follow, thus securing the stability of the world. My claim is that to even mention the possible, like Meillassoux does at this crossroads, is to compromise already. It jeopardizes the total reservation from possibility that the “can be” of absolute contingency was supposed to prescribe. The strike of contingency takes place at a level where ranges of possibility can be incompatible with each other (quantum mechanics). When they are incompatible they cannot be joined together. So before we wonder whether the possibilities that are opened to the world constitute a total set or not, it may be impossible to even start putting the first two possibilities together! Not even the “differential calculus of the world” (Baudrillard) is possible.

Reality, or the strike of contingency, takes place before the representation of the world in possible states or objects. The Bell’s inequalities are independent of any theoretical formalism whatsoever. Their violation is real; it shows that physics is always one step ahead of metaphysics.\textsuperscript{33} No need to think of possible worlds and of experiments that we would counterfactually conduct in those worlds in the hope of supporting the metaphysical notion of object; the physical world we live in presents us locally and immanently, without us leaving it, with statistics that are impossible to recover in an overarching range of possibilities, thus readily disrupting the notion of object.

If writing reality must proceed alternatively to possible states and division of


states, if we must find a sense for the materiality of speculation that accompanies its condition and not its result, then writing should be taken literally and contingency should be written and materially exchanged – instead of being thought possible and ex-changed (externally) against a material consequence. What is indeed the internal matter of contingency? What is its work (as opposed to its “state”)?

Viewed from the point of view of the scientist who goes as far as absolute contingency (up to and including the contingency of necessity), the extra speculative step is ontologically inert. Viewed from the point of view of absolute contingency now turned into “unscientific” ontology (the “can be”), the possible itself should not even take off, and a shunting (aiguillage) must be operated before the notion of generator of the other possible worlds is even enabled. Meillassoux hopes to deduce as a condition of the factual that it may constrain the possible as such in such a way that non-totalization obtains. But what if the factual, or the ontology of the “can be,” had to diverge from the possible from the start and to ignore it absolutely? Is such a diversion possible? Is there a room for factual speculation outside (or before) possibility? Instead of upholding absolute contingency “against all odds,” through the improbable argument of non-totalization whose danger, as Saldanha fears, is to make the whole move look “quasi-esoteric at worst, reductive at best,” wouldn’t a purer defence consist in alternatively opening the proper space of factual speculation, as such original and independent? If it is indeed a revolution of metaphysics we are talking about, let us first secure its epoch and medium, let us find its proper name, and later turn back and see if it is an eternal truth or not.

Writing contingency

Such a medium exists, unadulterated by state, possibility or probability. I have dedicated a full book to outlining this “pure science” of contingency, whose characteristic, as I have said, may just be that it will never establish contact with the physical world or the positive sciences (at least, not directly). It consists of an exchange of any possible thought, before looking to exchange contingency against possibility. It puts in order the metaphysics with which to deal with absolute contingency, leaving for later the task of finding the corresponding physics.

Instead of thinking of different states unfolding in possibility and in chronological time \((S, t)\), we first think what the materialization of this may be: its

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materialization in reality (that is to say, in contingency) and not in possibility, in the present place (or spot) and not in chronological time. As an alternative to exchanging contingency against possibility, we think of writing it in exchange, of marking it under different strikes and expiration dates \((K, T)\).

This requires that we recede into the archaeology of being to the stage where writing is a substitute of being and not merely a copy or a supplement; to the stage where writing even precedes being and still gathers, in one and the same sense, the different strands that later became analogies of writing only because being had taken precedence.

When contingency is written over underlying possible states, for instance as a contingent function, or claim, that will return BLUE if state \(S_1\) is realized and RED if state \(S_2\) is realized, this colouring is purely derivative; it adds nothing to the thought of the possible states; if they are unreal, likewise it is unreal. A material exchange takes place, however, when the thought of the underlying states is withdrawn from underneath the sheet on which the contingent claim has been written and the only thing left is the sheet with the difference marked on it: BLUE, if \(S_1\); RED, if \(S_2\).

I insist that we really withdraw the states; we are left with absolute contingency which is no longer derivative on possibility. The formula collects as one writing the two branches of the alternative which are incompatible in actual reality; this is feasible by the alchemy of writing. We tend to forget what writing can do!

A real effort of thought is needed in order to stop seeing in the written formula merely the reiteration of the states, where BLUE just replaces \(S_1\) and RED just replaces \(S_2\). The replacement and the exchange take place at a higher level. The written material truly replaces the thought of the possible — right at the knot, so to speak, not in the strands. The trick is to divert our attention from the irresistible attraction of the underlying states to the surface tension of the written formula and, in the same movement, to the question of its only possible fate now that the underlying metaphysics has been subtracted.

As the pressure of being and identity withdraws, we are left with the “depression” of writing. The sheet automatically “collapses” into the only remaining side of writing: the side that remains once writing qua derivative is withdrawn together with being qua original — a side which emerges, therefore, as the absolute single side of writing and which is the exchange. “Writing, therefore, is the exchange,” writes Roland Barthes.\(^{37}\) The sheet can turn blue or red, depending on the underlying state, however, the states are not real; they are not available because they are only possible. The sheet, by contrast, is materially available. It is real and it is contingent. What could become of it right here and right now? What could be its written destiny? What can exchange it before time and possi-

bility, even before thought: exchange it on the spot? Imagine a direct translation of its contingency that doesn’t require the intermediary of the states.

**Mathematics of price**

If the actual (yet contingent) real is symbolized by 1, what would be the symbol of the non-actualized real? Probability symbolizes the non-actual by numbers that are less than 1. However, probability is unreal; it only measures the possible. When two worlds are different, they cannot both exist in the real. Because probability is less than 1, it is able to circumvent the principle of excluded middle. Because the probabilities of two different possibilities can add up to 1, probability tricks us into thinking that the two worlds can now coexist as possibilities, in a “real” world in which we only measure their probabilities. The truth is that they only coexist in the unreal. The “real” world in question is only a fabrication artificially projected in the past, whose sole purpose is to measure probability.

There is utter heterogeneity between the possible and the real. If you are able to cash 1 for reality, you are unable to cash the probability that is less than 1. Is there a number other than probability (perhaps even other than the whole metaphysics of number) that we can always homogeneously cash in reality, regardless of whether the real is actual or not? (Bergson calls virtual the real that is non actual.) If contingency is indifferent to actuality – to what I have called the “expiration” – because it remains written (Pierre Menard’s *Quixote*) and if the underlying states of the world are no longer here, anyway, to assign 1 to the contingent claim when they become real and a number less than 1 when they are merely possible, what could be written over the contingent claim, homogeneously with its unfailling reality, to be always cashed for real regardless of its expiration? It is something I call the price.

Let \( K_1 \) be the contingent claim that pays out 1 if \( S_1 \) is realized at expiration \( T \) and 0 otherwise, and let \( K_2 \) be the contingent claim that pays out 1 if \( S_2 \) is realized at expiration and 0 otherwise. What does it mean, to “pay”? It means that \( K_1 \) can be cashed out for 1 in \( S_1 \). Its price is 1 in \( S_1 \). Let us not be impressed by money. Money is every bit as ideal as numbers. It is necessary if they are. If probability is the bridge between the possible and the real – between project and realization –, isn’t money likewise an intertemporal bridge, the alternative to abstract probability in our material world? Can’t money be defined as the numéraire in which to express the price, where the price has in turn been defined as the “present value” of contingency in the absence of underlying states and the metaphysics of presence?

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38Orthodox financial theory has always had a backward view of the price. It uses probability in order to compute the price of the contingent claim as the mathematical expectation of its payout. For this reason, it needs a framework of stable underlying states of the world. Likewise, general equilibrium theory construes the market price as the solution of a problem that it first
When 1 is the probabilistic symbol of reality, it can only be assigned to two mutually exclusive worlds by virtue of a fiction. We assign 1 to a possible world in the fiction of its future realization and we step back to the present to get its probability. We assign 1 to the other world in a different future, and we step back to the present to (improperly) mix its probability with the first. By contrast, when 1 is the price, it attaches to both contingent claims at once without contradiction, because it is simply written on them. \( K_1 \) and \( K_2 \) really coexist in the actual real world. That they should pay out 1 in \( S_1 \) or \( S_2 \) respectively is a real condition presently written on each one them. Price is the transposition in writing, therefore in the material real, of the unreal assignment of a possible reality. Once the move is decided to replace unreal possible states with real contingent claims, price is what replaces, in the real, the prop of unreality that we had added to the real in order to stage the possible.

In the present world \( S_0 \) (also called spot), whose time \( t_0 \) is prior to the expiration date \( T \) of the contingent claims, the price of \( K_0 \) is 1 and the prices of \( K_1 \) and \( K_2 \) are less than 1 and add up to 1, exactly like probability. Indeed, anyone buying today the combination of \( K_1 \) and \( K_2 \) will be guaranteed to receive 1 at expiration no matter the outcome. Crucially, \( S_1 \) and \( S_2 \) are never conceived as possible states in this arithmetic. They really exist in \( S_0 \), only at the state of writings marked over the sheets of \( K_1 \) and \( K_2 \). If the real world turns out to be \( S_1 \) at expiration, the price of \( K_1 \) will be 1 and the price of \( K_2 \) will be 0, as prescribed. Crucially, the world \( S_1 \) is now real yet is contingent. It never was possible. At no point was there a transition from the possible to the real.

Exchange place

The only remaining question is: Who attaches a price to the contingent claim prior to its expiration? Who takes care of the transition? Who shifts the price from \( p < 1 \) to 1? Who “generates” history (instead of generating possible worlds)? If this cannot be a transcendent possible subject, who this immanent contingent subject might be? When there is no subject to name the event, the only event that takes place is place itself. The contingent, immanent place is the exchange place. It is nobody’s place in particular but is defined as the place where anybody can be.

poses on top of postulated states. The irony is that the concept of probability itself is defined after price. De Finetti defines subjective probability through coherent bets accepted by a banker. Even objective probability leans on the notion of fair price in the long run, or even more fundamentally, on insensitivity to gambling systems for the rigorous definition of random sequences in von Mises’s axiom of randomness. (See J. von Plato, Creating Modern Probability (Cambridge: Cambridge University Press, 1994).) In reality, price should be the medium of absolute contingency and probability should only come second, if at all. In the market, there isn’t such a thing as an absolute price or a derived price; or such a thing as an underlying state or an overlying state. There is no transcendence. There is only the immanence of the exchange.
In the topology of absolute contingency,\textsuperscript{39} this is the absolute place. Statistically, it can only be the place of many, also called the crowd, or the market. Note that the exchange place is defined categorically, as the place of pricing of the contingent claim, before the exchange is analyzed away as a transaction relative to two exchanging counterparties.

Probability is backward because it steps back from a possible real to a “mixed” (and improper) real. It has to mesh its backward travels in a tree of possibilities and has to go through a (temporal) process. The tree is prone to instability, as the “implausibility” of the possible and the strain it constantly exerts on the thought of the real are propagated throughout its nodes. Not to mention that it is vulnerable to the strike of contingency, which may very well shake the whole tree from outside. The price process, by contrast, propagates forward, from real to real. There are no mixtures in the market. All contingent claims are traded at once, in all the variety of their strikes $K_i$ and expirations $T_j$, and market prices immanently attach to them.

The market process is not a time process; it is a place process. Since we have fallen into the only remaining place, where contingency finally can be exchanged after the withdrawal of the possible and the impossible alike, we can no longer supervise the succession of market prices. One has to be-there in the market, as a fundamental topology, not ontology.

Immanence is completed when the last remnant of state is withdrawn. What, indeed, is the nature of the state $S_i$ that is still hanging in the formula written over $K_i$? If there must only be prices in the market and no states, then $S_i$ must itself be a price. We thus redefine $K_i$ as the basic contingent claim that pays out 1 at expiration $T$ if the price of a reference contingent claim, likewise traded in the market, is equal to some number $S_i$ at that time. This is the completed description of the market of contingent claims, or more generally, of the financial market. All derivative instruments (a.k.a. contingent claims) are just different complications and combinations of this basic one.

In this finishing stroke (which is but the continuation of the single stroke of contingency), probability and possibility are cornered into a death trap. Indeed, the so-called derivatives valuation theory, which is the culmination of probabilistic thought and of stochastic calculus, thinks no better, at this juncture, than to model the temporal succession of prices $S_i$ as a stochastic process. It calls it the underlying process (of the reference asset). In the tree of possibilities that is thus crafted, the consequence follows automatically that the payoff of any derivative underlain by the reference asset would now be replicated by a self-financing dynamic trading strategy involving the latter. From this, the theoretical value of the derivative becomes a deterministic function of the price $S$.\textsuperscript{40} It

\textsuperscript{39}If, following Jeff Malpas, we must indeed move from the ontology of being to its topology (Cf. J. Malpas, Heidegger’s Topology: Being, Place, World (Cambridge, Massachusetts and London, England: The Massachusetts Institute of Technology Press, 2006)).

\textsuperscript{40}Cf. F. Black and M. Scholes, ‘The Pricing of Options and Corporate Liabilities’, Journal
is now transcendentally imposed and can no longer be given by the immanent
market. Theory illegitimately misplaces the range of possibilities before the strike
of contingency.

In reality, it is the reverse. What I have called the place process, or the
market process, takes place outside chronological time. If we force time into it
regardless (since we all accidentally yet inescapably live in time) and try to think
it through time, the real process will transpire as the repeated restoration\textsuperscript{41} of
the hierarchy of contingency and possibility. In reality, the market proceeds as
this continual reversal of the order of time. The market-maker uses the theory
of dynamic replication of derivative instruments. In this, he may seem to rise as
the original author of the market. However, when he recedes in the right medium
(like Pierre Menard) and receives the price of the derivative instrument from the
market – a price which will be different from the output of his theoretical tool,
if only because it cannot be imposed by him, yet a price which he will affirm
nevertheless –, the pricing tool automatically inverts in his hand. It becomes
the signal that the range of possibilities on which it is temporarily based could
(even should) have been different.\textsuperscript{42} Prices are absolute and are never derived.
Derivative instruments should be renamed contingent claims.

The pricing tool thus turns into a writing tool. It now advances and translates
contingency by continually retracting from possibility and by forever postponing
it, as if the suspension of the ontology of states, ordered by the point of the wave
function and more generally by the stroke of contingency, was finally finding
its script. The market of contingent claims is the human science to write after
quantum mechanics.

Conclusion

The question remains of what the bearing of the market on philosophical specu-
lation could be. How will reality fare now that we write it instead of representing
it? Note that the market was only a coincidence. It was the last stop before
other things, totally irreducible to number, start being written over the “conting-
ent claims,” or the sheets, of history. Numbers were a happy coincidence in the
market, because money – a numeraire which also had the nature of number – was
able to measure success or failure and to provide both the fabric and the horizon
of that world. The market was a useful thought, if only because it allowed us to
find a substitute for a fake (i.e. unreal) number: probability. In this, the market
\textsuperscript{41}In the Deleuzian sense of repetition.
\textsuperscript{42}This perversion of the order of thought manifests itself in the phenomenon of the “implied
volatility smile,” still an unsolved riddle of derivatives valuation theory whose only solution, I
hold, lies in placing price before probability and the exchange place before the underlying state.
(See my \textit{The Blank Swan: The End of Probability} (London: Wiley, 2010).)
is more of an interchange of the path of thought than a stop. It is up to factual speculation to generalize the notion of price that we found best adapted to contingency. My speculation is that instead of probability and its backward mode, philosophy should turn metaphysical thought to the only reality that is being materially written: its own book. What the price is to the unending market, the perpetual book is to reality.