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The Mystery of Nature's Orderliness: A Critical Examination of the Humean Problem of Causation and the Kantian Response Thereto

By
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Φύσις κρύπτεσθαι φιλεῖ[1]

Heraclitus, fragment 123

E. Kant *D. Hume*

[1] "The real constitution of nature is accustomed to hide itself".

Plagiarism Declaration

I, Jonti Joey Bloomberg, declare that this dissertation is my own original work. It has not been submitted before for any degree or examination at this or any other university.

J. J. Bloomberg
19th August 2024

Ethics Declaration

I, Jonti Joey Bloomberg, obtained on the 2nd of June 2023 the applicable research ethics approval for the research described in this work; research ethics number: HUM010/0523. I also declare that I have observed the ethical standards required in terms of the University of Pretoria's Code of Ethics for Researchers and Policy Guidelines for Responsible Research.

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Finally, to my beloved dog, Carrie (16th April 2008 – 12th December 2023), and the many wonderful years that we spent together, side by side. "Carrie… always the years between us, always the years… always the love… always the hours."[2]

[2] An adaptation from the concluding scene of the 2002/2003 film *The Hours*.

Abstract

A pressing question for the history of philosophy concerns whether or not the German philosopher Immanuel Kant can be considered to have offered an adequate response to the Scottish philosopher David Hume's so-called "predicament of causation". The present dissertation illustrates that Hume propounds two forms of scepticism concerning the principle of causation. One form pertains to causation in a general sense (commonly considered to be found solely in the first book of Hume's principal work, *A Treatise of Human Nature*), which maintains that causality is entirely mind-dependent. Another form expresses scepticism about causation in a particular sense (ordinarily considered to be found solely in *An Enquiry Concerning Human Understanding*), according to which it is impossible to know with certainty that one phenomenon is indeed causally connected to another. The study indicates that in spite of the fact that Kant seems to have intended to supply a satisfactory response to Hume's particular instantiations predicament of causation, he ultimately fails to do so. However, Kant can be considered to have supplied in both the *Critique of Pure Reason* and the *Prolegomena* a seemingly fortuitous (for it appears that it was unintended) response to the general reading of Hume's predicament. The dissertation argues, though, that it also ultimately does not succeed in offering a cogent response to the general predicament. For all that Kant says, Hume's sceptical challenge is ultimately unmet, such that we cannot know any causal claims for certain.

Keywords: David Hume; Immanuel Kant; Causal Laws; Causation; Causality; Constant Conjunction; Necessity; Scepticism; Second Analogy

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Prelude

I have dedicated this work to the memory of my beloved Yorkshire Terrier dog, Carrie, not solely because she meant more to me than any other creature, but because her life was the true inspiring genius for my interest in the topic of causation.[3] Since the age of approximately one year, Carrie suffered from intermittent bouts of diarrhea and nausea. Oftentimes I feared for her life, and I incessantly found myself frustrated, vexed and exasperated by medical practitioners who, in spite of many years of formal training in the field of veterinary science, were incapable of correctly diagnosing and subsequently treating my beloved companion. I must therefore confess that when I commenced the composition of this work I was under the commonsense impression that causal relations are a real feature of the world and that if only I – or the medical practitioners I trusted to assist my dog – could discover the *vera causa* of Carrie's illness, she might have been cured and lived – dare I say with utter naivety and speaking solely from the heart – *forever*.

My earnest investigation into the philosophies of Hume and Kant – both of whom I hold in the utmost esteem and veneration – has in consequence forever altered my view of the matter. My study has led me to conclude that causation may not in fact be a real feature of the world, but solely the way in which we naively perceive it to be – a profound notion to be found in both Hume and Kant, albeit in very different senses in so far as the former considers causality to be a product of the mind *as a consequence of experience*, i.e. in an *a posteriori* sense, whereas the latter holds it to be mind-dependent *prior to experience*, i.e. in an *a priori* sense.

[3] I was first alerted in earnest to the question as to whether or not Kant's philosophy can be considered an adequate response to Hume's "predicament of causation" by way of an introductory essay written by the eminent Kantian scholar Lewis White Beck, in his admirable translation of Kant's *Prolegomena*. In preparation for the composition of my doctoral dissertation I had at that time only read Hume's first *Enquiry* – in which that "acute man", as Kant (1785/1985a: 22) refers to him, emphasizes the difficulty of being able to determine the *vera causa* of particular effects (Hume, 1748/1993a: 41-42). As a consequence thereof, I was led to maintain that Kant – given that he propounds a response to a scepticism concerning the general principle of causation (Allison, 1983: 216) – did not in fact offer an adequate response to Hume's predicament. I have been compelled to acknowledge that in the first book of what is now considered to be his *magnum opus*, *A Treatise of Human Nature*, Hume (1739/1985: 216, 218) does in fact propose a scepticism pertaining to the principle of causation in a *general* sense; however, as I shall illustrate herein, given that Kant most probably did not read this work (Watkins, 2005: 364) he can be considered to offer a response to Hume's general predicament of causation only possibly fortuitously and, as I shall further illustrate, problematically and in a circumscribed manner.

It seems indisputable that there is regularity or order in macroscopic nature – or at least in so far as we can actually experience it and trace its origins – however, the true explanation for this regularity and order is something utterly mysterious. I have not attempted in my exposition to positively characterize it, even by way of an explicitly tentative theory. Perhaps someday, some genius will come along and – like Copernicus, Newton, Darwin and Einstein – illuminate the minds of ignorant humankind. On the other hand, perhaps such a reverie is overly optimistic – for it may be that the regularity and order in nature is, much like the difficulty of the fundamental essence of matter and the origin of the Universe, so far removed from human fathomability that we, as a species, may never arrive at a genuine understanding of it. For now we may declare: *ignoramus*,[4] but perhaps the regularity and order of the natural world will ultimately prove to be an insoluble difficulty, in which case we shall be coerced to reluctantly declare: *ignorabimus*.[5] It may be a rather uncomfortable realization that humanity truly knows so little about the Universe in which we all, to our great astonishment, suddenly find ourselves existing. I hope that, if nothing else, my exposition is able to humble even the most overly-confident causally-saturated minds.

[4] "We do not know".

[5] "We shall never know".

(1) Introduction

In his famous exploration of the history of Western philosophy, Bertrand Russell (1947: 698) notes that "many philosophers share with Kant, that his *Critique of Pure Reason* answered Hume". However, there is an equally long and illustrious tradition which maintains, in contradistinction to Russell's aforementioned pronouncement, "that Kant did *not* answer Hume but simply assumed what Hume doubted" (Beck, 1950: xixn1). In the following exposition I address this long and interesting debate by indicating that there is a sense in which both sides are equally correct.

To begin with it is necessary to observe that Hume offers two distinct "predicaments of causation" in his two most celebrated works, viz., *A Treatise of Human Nature* and *An Enquiry Concerning Human Understanding.* In the former work, which is often considered to be Hume's *magnum opus*, Hume (1739/1985: 216, 218, et al.) primarily presents what I shall refer to as the *general* predicament of causation, whereas in the latter work Hume (1748/1993a: 50, et al.) primarily presents what I refer to as the *particular instantiations* predicament of causation. The "general predicament" raises a scepticism regarding the notion of causation itself, i.e. as being a mere chimera of the mind which forms as a result of habit (Hume, 1739/1985: 218), while the "particular instantiations predicament" pertains to the difficulty of being able to know with certainty that one phenomenon is indeed the cause of another (Hume, 1748/1993a: 50).

Now as Kant (vide, 1783/1985a: 6, 22, et al.), by his own admission in the *Prolegomena*, was responding to Hume's particular instantiations predicament as formulated in the first *Enquiry*, it comes as a surprise that he (Kant, 1783/1985a: 6, 22) renders the difficulty in a *general* way in order to resolve it and, as a consequence thereof, subsequently offers a *general* (Kant, A189/B232, et al.) solution to Hume's particular instantiations predicament. In what follows I argue that, contrary to Kant's (1783/1985a: 6) assertion, he does *not* give an adequate response to Hume's particular instantiations predicament, but Kant can nonetheless be considered to have fortuitously supplied an answer to Hume's general predicament. This is accidental in so far as Kant was not, so far as scholars know (Watkins, 2005: 364, et al.), aware of Hume's general predicament as expressed in the first book of the *Treatise*. Thus, there is a sense in which scholars are justified in claiming that Kant adequately responded to Hume (vide, Russell, 1947: 698), i.e. in so far as he fortuitously responds to Hume's general

predicament of causation as found in the *Treatise*. However, I will argue that scholars are equally vindicated in claiming that Kant did *not* adequately reply to Hume (Beck, 1950: xixn1), viz., in connection with the particular instantiations predicament as found in the first *Enquiry* – for I will also argue that Kant (1783/1985a: 54-55) cannot prove by way of his theory how one phenomenon can be known with apodicticity to be connected to another. Indeed, these matters constitute the pith of my exposition in so far as I am interested in determining whether or not Kant can be considered to have adequately responded to Hume's so-called "predicament of causation".

The exposition, which deals with these matters in earnest, is divided into two primary sections, viz., the first on Hume and the second on Kant. This layout seems to me the most efficacious in so far as we need first to comprehend Hume's arguments and his two predicaments in detail before we can arrive at any conclusion concerning the primary matter, i.e. whether the Kantian philosophy may be taken as an adequate response to the Humean. In this respect, the primary discussion and response to the question posed is to be found in the second, i.e. Kantian, section of the exposition. This is the most succinct way of answering the question in so far as I am immediately able to engage with the material in the section on Kant, as opposed to presenting one section on each philosopher and subsequently addressing the question in a third, separate, section, wherein a great amount of repetition would be necessary.

In concluding this introductory section I must acknowledge that it would indeed be a most surprising, albeit elating, coincidence if I happened to stumble fortuitously upon an entirely novel observation in relation to the work of two of the greatest philosophers of all time. Given the fact that centuries have passed since the original publication of these notions and the immense amount of commentary thereon, I ought sagaciously to remain humble. Hence, I am almost certain – *empirically certain* (Kant, 1783/1985a: 28), if I may be permitted to utilise Kantian terminology – that others have had thoughts extremely similar, if not entirely identical, to my own; however, I hope that my musings on the matter may contribute to the secondary literature on the topic by way of offering a clarification to a most perplexing predicament, even though I have composed this work primarily for my own elucidation and have therefore not aimed at originality. Thus, even if only in a most circumscribed way, I maintain that my exposition will contribute to the literature on both Hume and Kant, much as

an infinitesimal and seemingly inconsequential water-droplet contributes to the volume of water in a vast, expansive ocean.

(2) Part One: David Hume

"In nature's infinite book of secrecy, a little I can read" – Shakespeare, [*Antony and Cleopatra,* Act 1, Scene 2]

In this first section I shall meticulously trace Hume's two predicaments of causation in order to ultimately determine which (if either) Kant can be considered to have offered a cogent reply. In short, I shall illustrate that the general predicament of causation is to be found primarily in the first book of Hume's (1739/1985: 218, et al) *Treatise* and raises a scepticism pertaining to causality in a general sense, whereas the particular instantiations predicament is to be found primarily in Hume's (1748/1993a: 50-51, et al.) first *Enquiry* and pertains to one's inability to know for certain that one phenomenon is indeed the cause of another. Towards the conclusion of my discussion in this section I argue that Hume's (1739/1985: 218, et al.) insights in the first book of the *Treatise* anticipate some of Kant's celebrated notions, such as the important distinction between the noumenal and phenomenal realms. This is a significant observation in so far as Hume (1739/1985: 218, et al.) may be construed to place the causal principle in the so-called "noumenal sphere", i.e. in contradistinction to Kant (1783/1985a: 40, et al.) who regards the causal principle as a fundamental feature of rational cognition. Thus I maintain that had Kant read Hume's *Treatise* he may not have attempted to defend the causal principle by rendering it an *a priori* concept of the understanding (Kant, 1783/1985a: 40, et al.).

(2.1) Content Empiricism

As a point of departure it will be convenient to note that Hume is most renowned as an empiricist[6] – or, to be more precise a *content empiricist* (Merrill, 2010: 99) – arguing that all genuine knowledge about the world derives ultimately from the senses, i.e., experience. In other words, according to the empiricist conception the mind at birth is essentially a *tabula rasa* or "white paper" (Locke, 1689/2004: 109) – devoid of all knowledge, waiting for the senses to imprint knowledge upon it. Content empiricists thus subscribe to the dictum, *nihil*

[6] I will argue that Hume is in fact a *radical* empiricist, in so far as he rejects any claim that is not *immediately* based upon observation.

in intellectu nisi prius in sensu (Merrill, 2010: 99).[7] Thus, whatever notions exist within the mind must ultimately be derivable from experience, which includes both outer and inner experiences.[8]

In the first section of *A Treatise of Human Nature* Hume (1739/1985: 49) declares that "[a]ll the perceptions of the human mind resolve themselves into two distinct kinds, which I shall call impressions and ideas". This dichotomisation is not an arbitrary complication, but serves as a foundation for the edifice of Hume's system. However, Hume (1739/1985: 54-55) does not explicate his reasons for this dichotomisation until the end of the section, but, as I maintain that this explication is essential to comprehending the Humean project, I shall invert the order of presentation and commence with a discussion thereon.

(2.2) Hume's Rejection of "Innate Ideas"

In essence, Hume's (1739/1985: 49) distinction between impressions and ideas may be taken as an attempted refutation of the rationalist notion of "innate ideas". According to this latter view, the human mind contains within itself either notions of objects which transcend sensory experience (Nelson, 1967: 196) – such as the ideas of God, infinity (Merrill, 2010: 100) and Platonic Ideas or Forms (Plato, 2007c: 76) – or "universal principles" (Nelson, 1967: 196) – such as are expressed in the propositions "equals added to equals always give equals", "nothing can come from nothing" (*ex nihilo nihil fit*) (Nelson, 1967: 196) and "everything has a cause for its existence". It ought to be evident that such notions could not have been

[7] "There is nothing in the intellect (or mind) that was not first in the senses" (ibid). Simon Blackburn (2008: 15) renders the maxim, *nihil in intellectu quod non fuerit in sensu*.

[8] It is important to note that an impression can emanate from either the external or internal world; hence bodily pains and pleasures are instances of internal impressions (Hume, 1739/1985: 327). But the experience of happiness and sadness cannot be considered *immediate* impressions, for they depend upon the *reflection* of those immediate impressions; that is to say that the immediate impression of pain need not yield to the emotion of sadness, but can in certain instances lead to happiness, just as the immediate sensation or impression of pleasure need not necessarily induce a sentiment of euphoria, but may at times lead to melancholia. In this regard, it will be beneficial to invoke Hume's (1739/1985: 327) distinction between impressions of sensation and impressions of reflection. The former are "original impressions", which arise "from the [direct] application of objects to the external organs"; the latter are "secondary" and "are such as proceed from some of these original ones, either immediately or by the interposition of its idea" (Hume, 1739/1985: 327).

acquired by way of experience, for in the case of objects such as God or Platonic Ideas/Forms one does not have any experienceable objects corresponding thereto.

Now although I do not wish to become engaged in an unnecessarily detailed discussion on innate ideas, I maintain that it will be beneficial to our discussion to reflect upon one difficulty generated by the notion of innateness which has led to some bizarre and fanciful explanations thereof. In short, we must enquire: what is the ultimate provenience of innate ideas? It is important to note that the concept of "innateness" cannot be hastily explicated by way of heredity, i.e. one cannot in an attempt to explicate the origins of innate ideas claim that they are acquired by way of genetic inheritance. In the first place, we may wonder how an idea can be genetically transmitted to one's offspring.[9] In connection therewith I am compelled to observe that my ancestors may have entertained manifold notions which have never and will never occur to me; thus it appears to be nonsensical to intimate that certain ideas have been genetically inherited. But, more significantly, even if ideas were genetically transmittable the difficulty regarding inexperienceable notions remains: for if I declare that the notion of infinity, for instance, exists presently in my mind due to the fact that I inherited it from my parents, who in turn inherited it from their parents, who in turn inherited it from their parents and so on and so forth, I have in no way actually explicated how the first human in the set acquired this thought. Are we then to assume, quite arbitrarily, that the notion of infinity was by some miraculous process, i.e. God, implanted into the mind of the first human who then passed on this knowledge to subsequent generations? In short, we may express the matter thus: how did Adam – the mythological "first man" – acquire the notion of infinity?

Perhaps, in an attempted response, it may occur to us to invoke the Platonic notion of anamnesis (vide, Plato's *Phaedo*). According thereto, I have lived countless lives wherein I acquired an immense body of knowledge. This knowledge thus exists in a dormant state within my mind, which experience and recollection subsequently reignites, thereby

[9] It may be cogently argued that the genetic inheritance of certain brain structures inclines one to certain ideas in adulthood, thereby refuting my claim. However, one ought in this instance to carefully bear in mind that it would then be *the structure of the physiological brain* that is inherited and not the ideas proper, which would be secondary and consequently adventitious. Indeed, it seems to me that in his acknowledgment of the so-called "missing shade of blue" (which I shall shortly discuss), Hume (1739/1985:12-13) tacitly and unwittingly concedes to the point of the brain possessing an ability to infer ideas for which no correspondent impression is supplied in experience; but as we shall see, this in no way refutes the claim that ideas are not innate.

"reinstating" the knowledge I possess (Plato, 2007c: 50). Thus, the knowledge of inexperienceable concepts, objects and principles is nothing more than a recollection of "what a man […] must have known at some previous time" (Plato, 2007c: 50). But upon closer consideration it appears that this ancient theory fares no better than its modern counterpart (i.e. heredity). I must assume that in one of my past lives (supposedly the first) I acquired the notion of infinity, but how then did I acquire it on that primary occasion? Again, I am left in the difficult position of having to assume that the knowledge was implanted into my primary mind by some miracle or magic (i.e. by God),[10] for if it were found possible to acquire such a notion by way of experience in one's first life, why is that knowledge *not* acquirable by way of experience in all one's subsequent lives?

It ought to be evident then that theories which rely upon past acquisition fail to explicate the ultimate origin of innate ideas on radical empiricist terms; we might consequently wish to abandon them altogether and consider the matter along strictly *empirical* lines, i.e. by claiming that the neonate is not born with the notion of infinity but that this notion arises from a consideration of mathematics, or to be more precise, from numbers, which are themselves tangibly acquired by way of extant material objects. For the child learns by way of experience that a digit can be added to every number and thus that the set of numbers must continue *ad infinitum*. It is in this way, one may claim, that the notion of infinity arises circuitously and not that the notion exists innately at birth.[11] However, in declaring the notion of infinity to be circuitously acquired by way of experience it must be emphasised that an infinite set of digits is never experienceable and consequently never experienced. Thus, in conceiving an infinite set the mind has in fact transcended experience and ventured into the realm of logic. The empiricist approach intimates, therefore, that the notion of infinity is either at worst chimerical or at best a rather vague, not entirely distinct, notion. But if one considers this view to be more plausible than the aforementioned heredity and Platonic views then one has, perhaps unwittingly, rejected the traditional concept of innate ideas.

[10] But if God is assumed to have implanted a particular notion in the first human mind, which is then passed on to subsequent generations, why ought we to assume that such a notion is passed on by way of anamnesis and that God does not implant the idea into every new being? Furthermore, as such a process (i.e. of God implanting an idea) is by its very nature inexperienceable, such a theory cannot be utilized by a radical empiricist such as Hume.

[11] The difficulty here is that the notion of "infinity" is acquired without one actually experiencing infinity.

Now it is precisely in order to dispense with these vacuous, chimerical "innate notions" that Hume (1739/1985: 49) draws the aforementioned distinction between impressions and ideas, both of which are perceptions (Merrill, 2010: 208). However, it is significant to note that for Hume impressions are *prius* (primary) whereas ideas are *posterius* (secondary), by which I mean that "impressions are the stronger, livelier, more vivacious perceptions; [whereas] ideas are the fainter, weaker images of impressions that we encounter in thinking and imagining" (Merrill, 2010: 208). Thus, the experience of being stung by a bee would be a vivacious impression, whereas the recollection or mere thought of the incident, i.e. of being stung by a bee, would be the corresponding fainter idea thereof (vide, Hume, 1739/1985: 49). In this sense, Hume (1748/1993a: 13n1) precludes the possibility of ideas being innate, i.e. "natural to human thought" (cf. Hume, 1748/1993a: 13n1), and maintains in contradistinction thereto that it is impressions themselves which must, according to this view, be considered as foundational.

Now in order to determine the direction of causality[12] in this particular instance, i.e. between impressions and ideas, Hume (1739/1985: 52) invokes some interesting points. He (Hume, 1739/1985: 52) observes that one never obtains an impression from an idea; on the contrary, in order for one to obtain "an idea of scarlet or orange, of sweet or bitter, I present the objects, or in other words, convey to [the individual in question][13] these impressions; but proceed not so absurdly, as to endeavour to produce the impression by exciting the ideas". As further corroboration of his point, Hume (1739/1985: 53) correctly observes that individuals who cannot perceive, and consequently do not possess impressions, do not have any corresponding ideas. This is true, he continues (ibid.), not only "where the organs of sensation are entirely destroy'd, but likewise where they have never been put into action to produce a particular impression. We cannot form to ourselves a just idea of the taste of a pineapple, without actually having tasted it". Thus does Hume (1748/1993a: 13n1) maintain, as I mentioned above, that impressions are *prius* and ideas are *posterius*. It is in this way that

[12] Hume (1739/1985: 52) is in fact guilty of utilizing the commonsense conception of causation in his discussion of the way in which impressions relate to ideas. This is problematical in so far as Hume – the radical empiricist – cannot discover in experience the actual causal or necessary connection impression corresponding to the idea.

[13] Block parentheses, i.e. "[ ]", within quotations are not found in the original text, but have been included in order for clarification purposes.

Hume inverts, as it were, the rationalist account of ideas as being fundamental to human knowledge.

Impressions therefore precede ideas and consequently ground them. In other words, it is inconceivable, save for a particular and inconsequential exception which I shall shortly elaborate upon, for an idea to exist within the mind without a corresponding impression. It follows that if all ideas are to be based upon vivacious impressions, then the concept of innate ideas (which by their very nature have no correspondent impressions) becomes untenable. In order to fully comprehend this we need only observe that for the rationalist philosopher[14] innate ideas are *ungrounded*, i.e. they do not possess corresponding experienceable impressions. As such a rationalist philosopher can propose the most outlandish notions and claim that such ideas are *innate* and therefore impervious to empirical observation or confirmation. By arguing that every genuine idea must necessarily possess a corresponding impression upon which it is grounded or based Hume has essentially rejected the claim that the mind contains ideas prior to experience.

Hume's notions are compelling and appear to be veracious for the most part; but I must pause here to observe that there appears to me to be some difficulties in Hume's account, which have pertinence to his theory of causation. Firstly, Hume (1739/1985: 50) claims that there exist "simple perceptions or impressions". Now it must be recalled that simple impressions are those which cannot be further reduced, such as colours and shapes. But it does not seem possible that one can experience a colour independently of a shape or a shape independently of a colour. If, for instance, I observe a triangle, square or circle these shapes must necessarily be of some particular colour. Likewise, when I experience colours they are always of some particular shape or other: I can never experience a formless or shapeless colour, just as I can never experience a colourless shape or form. Thus, although Hume (1739/1985: 50) refers to *simple* impressions, we must observe that such do not exist and that impressions, even the most rudimentary, are perpetually presented as *complex*. Indeed, Hume

[14] It is not entirely accurate to absolutely distinguish between rationalist and empiricist philosophers by claiming that the former are committed to the notion of "innate ideas", whereas the latter are not. Theoretically this may be veracious, but in practice many empiricists (such as, for instance, Locke and Berkeley) also maintain that some ideas (such as God or causality) are innate and not acquired by way of experience. I mention this because it would be erroneous to maintain that all empiricists were (and perhaps are) as absolute as Hume in their rejection of innate ideas, however inconsistent this may be.

(1739/1985: 72-73) himself seems to intimate this conclusion, without explicitly drawing it, in his concluding discussion of Part I (of Book I) of the *Treatise*. Therein, Hume (1739/1985: 72) observes:

> […] when a globe of white marble is presented, we receive only the impression of a white colour dispos'd in a certain form; nor are we able to separate and distinguish the colour from the form.

Yet it seems to me that this difficulty is not limited to impressions, but in like manner to ideas. In order to fully comprehend this I shall commence by observing that Hume's (1739/1985: 55) copy principle is committed to a *pictorial* view of ideas (vide, Hume, 1739/1985: 76).[15] In other words, when one obtains an idea it is an *image* of a particular impression. Now the difficulty in maintaining a pictorial view of ideas is most conspicuous when one attempts to form abstract or general ideas of particular entities or impressions. Let us consider the general idea of "dog" to illustrate the point I am attempting to make. By way of experience I receive multiple impressions of different types of dogs: some with pointy-ears, others with droopy-ears; some large, some small, etc. Now if it is true that ideas are pictorial then my mind must form a general *image* of "dog". But upon close consideration it becomes evident that such an undertaking is utterly impossible. In short, my mind cannot form a general *picture* of "dog" because there exist a multitude of different types of dogs, with different physical characteristics, and so the idea becomes indistinct and blurry.[16]

But if one accepts a *pictorial* view of ideas, i.e. that ideas are merely replicated images of impressions, then it follows that just as one cannot conceive witnessing a colourless form or a

[15] As Hume (1739/1985: 76) states explicitly: "[…] the *images* [my italicization] which I form in my mind to represent the things themselves [..]"

[16] It may have been this pictorial view of ideas which ultimately led Hume (1739/1985: 64) to follow Berkeley in rejecting the notions of *general* ideas. Although the matter is not of paramount significance to our discussion I shall offer a succinct summary of Hume's view, which amounts to this: the mind can only ever acquire *particular* impressions (Hume, 1739/1985: 66-67) which it relates to others which *resemble* it and that we subsequently "apply the same name to all of them" (Hume, 1739/1985: 67). Thus, to return to my initial example, when I conjure up the idea of *dog*, I think of a *particular* dog, say my Yorkshire Terrier, which I subsequently relate to other *particular* dogs, such as my Maltese Poodle or any other particular dogs I may be able to contemplate and I apply to all of them the term "dog", in spite of the very noticeable differences which exist between them.

shapeless colour, so too can one not portray such things to oneself in one's mind, i.e. I cannot form an idea of a shape without colour or a colour without shape.[17] As a consequence of these observations, it appears that both simple impressions and simple ideas are impossible on Hume's account. If, however, one resolved not to adopt a pictorial interpretation of ideas then one may be able to salvage the notion of simple ideas.[18]

Further to this difficulty is the fact that it is quite arbitrary to decide that colour or shape are themselves simple and cannot be further reduced to more simple components. Indeed, for all we know matter is, contrary to Hume's (1739/1985: 75-77) assertion, infinitely divisible and

[17] I challenge my readers to attempt this for themselves, i.e. let one try to imagine a colourless shape or a shapeless colour. I conjecture that no one will be able to do so. For if I, for instance, imagine a triangle it must necessarily be of some colour (such as black on a white background), just as when I imagine the colour red it will necessarily be of some shape, perhaps quadrangular or circular, etc.

[18] However, I shall not attempt such an undertaking here but merely observe that Hume (1739/1985: 72-73) himself offers some explication as to how the mind is able to conceive of simple ideas upon his pictorial theory of the mind. The mind is perpetually presented with complex impressions and, by implication ideas; yet, when we are presented with objects that resemble each other in certain respects, we are able to isolate those *qualities* and attend solely to them, *even though they cannot be pictorially represented to the mind*. As Hume (1739/1985: 72) states:

> Thus when a globe of white marble is presented, we receive only the impression of a white colour dispos'd in a certain form; nor are we able to separate and distinguish the colour from the form. But observing afterwards a globe of black marble and a cube of white, and comparing them with our former object, we find two separate resemblances, in what formerly seem'd, and really is, perfectly inseparable. After a little more practice of this kind, we begin to distinguish the figure from the colour by a *distinction of reason*; that is, we consider the figure and colour together, since they are in effect the same and undistinguishable; but still view them in different aspects, according to the resemblances, of which they are susceptible. When we wou'd consider only the figure of the globe of white marble, we form in reality an idea both of the figure and colour, but tacitly carry our eye to its resemblance with the globe of black marble: And in the same manner, when we wou'd consider its colour only, we turn our view to its resemblance with the cube of white marble. By this means we accompany our ideas with a kind of reflection, of which custom renders us, in great measure, insensible. A person, who desires us to consider the figure of a globe of white marble without thinking on its colour, desires an impossibility; but his meaning is, that we shou'd consider the colour and figure together, but still keep in our eye the resemblance to the globe of black marble, or to any other globe of whatever colour or substance.

as a consequence thereof neither colour nor shape would in fact be "simple", but, on the contrary, *complex*. Although these observations do not vitiate Hume's ultimate project, they indicate that Hume's theory is not impervious to criticism and, moreover, that it is erroneous to seek out *simple* impressions. This will, of course, have pertinence to the primary subject-matter of the exposition in so far as some might argue that Hume ought not to have sought one simple impression to which the notion of "causal connection" can be ascribed. We shall return to this interesting matter in due course.

(2.3) The "Missing Shade of Blue"

Impressions are thus fundamental (Hume, 1739/1985: 53), but it does not seem to follow that because impressions have priority over ideas that they are necessarily more forceful and violent as Hume (1739/1985: 49) claims. One may feel some uncertainty as to what precisely Hume (1739/1985: 49) meant by this aforementioned claim, i.e. that impressions are more forceful and violent, but Simon Blackburn (2008: 20) offers a compelling clarification: he contends that Hume meant that impressions possess a power to "direct what we do in a way that reflections and ideas do not". Thus according thereto, impressions can spur one into action, but ideas cannot – at least not to the same degree. To offer a tangible illustration of this notion one may compare his sentiments (both positive and negative) upon encountering someone in person and merely observing the same individual in an image, such as a photograph. I maintain that all will concur that there is a heightened, i.e. more vivacious, sentiment in engaging directly with an actual individual than merely observing them in an image. Yet we may nonetheless feel somewhat apprehensive to accept the veracity of this claim, for many psychotic individuals who develop an *idée fixe* which does not correspond with reality – and is therefore in Humean parlance, not grounded in a corresponding impression – are so possessed by their thoughts that they can be motivated to commit the most outlandish acts, such as murder. We are compelled therefore to investigate the matter further in order to determine its ultimate veracity.

In corroboration of our aforementioned observations Anthony Quinton (1998: 12) observes in his short work on Hume that "[i]t is easy to think of imaginings (hallucinations and dreams, for example) that are much more lively than most of what we perceive, let alone remember". It seems therefore that ideas can sometimes be more forceful and violent than impressions.

To succinctly illustrate this matter and the falsity of Hume's assertion,[19] let one conjure up in his mind the idea of his greatest fear and compare this with the impression of observing a person perform a mundane, boring activity. It seems evident that the idea of one's greatest fear has far more vivacity than the observation of a mundane, boring task.

Perhaps, in defence of Hume, one might argue that this criticism is spurious in so far as one's greatest fear might be a recollection of an event and therefore based in experience, i.e. although one conjures up an idea in recollection, the idea itself is based upon an impression, i.e. an actual event. Consequently, far from refuting Hume's contention the illustration may in fact be considered a corroboration thereof.

In response thereto I therefore propose the following anecdote in addition to this thought experiment, which seems to me to utterly refute Hume's claim that impressions are ordinarily more vivacious than ideas. When I had lost my beloved Maltese poodle to renal failure I was overcome with the most debilitating melancholia. The one night I had a dream that I was walking to one of the areas in the house that she usually spent her time; but in order to get to that location I had to turn a corner. When I walked towards the area, there was a warm bright, yellow light being emitted therefrom, I turned the corner and lo! There was my beloved dog – as she was when she was younger and in good health, looking up at me with her tail wagging. I picked her up, embraced her tightly, and apologised for not being able to save her life; I then told her that I would have to let her go, whereupon I began to weep violently. Now, this particular dream (idea)[20] was so intense (vivacious) that I actually awoke, weeping violently *in actu* – but the dream itself was not a memory of an event that actually happened and it consequently did not correspond to any impression (event). It goes without saying that my dream – i.e. an idea for which there was no extant impression – was more vivacious than most other impressions that might have conjured similar emotions, such as seeing her basket or blankets. In this particular case, then, an idea was far more vivacious than an impression

[19] In order to be just it is necessary to note that Hume (1739/1985: 49) was fully aware of the fact that, on occasion, impressions can be faint, while ideas can be vivacious. Yet he (Hume, 1739/1985: 49-50) dismisses this difficulty by observing that "notwithstanding this near resemblance in a few instances, they are in general so very different, that no-one can make a scruple to rank them under distinct heads, and assign to each a peculiar name to mark the difference".

[20] Of course the idea or memory of my dog corresponded to the impression of my actual dog when she was still alive; but my point in relating this anecdote is that the entire scene did not correspond to an actual occurrence.

and such appears to refute Hume's pronouncement that the latter are always livelier than the former.

In spite of the above observation, Hume (1739/1985: 49) himself declares the distinction between impressions and ideas to ultimately be a distinction "betwixt feeling and thinking", respectively. Thus, because impressions perpetually correspond to sentiments they are necessarily more forceful and vivacious. In contrast, thinking is in a sense one pace removed and consequently can never be as forceful as an impression. Yet, as we have observed above, it is possible for a thought (idea) to invoke an impression and thereby become more vivacious.[21]

Be that as it may, Hume (1739/1985: 51) challenges his readers to provide an example of an idea for which there is no corresponding impression. The assumption, of course, is that the undertaking is utterly impossible and hence "we may from his silence and our own observation establish our conclusion" (Hume, 1739/1985: 51), viz. that every idea is grounded in a particular impression. It comes as a surprise, then, that Hume (1739/1985: 53-54; 1748/1993a: 12-13) himself offers an illustration of an idea without a corresponding impression:

> There is however one contradictory phaenomenon, which may prove, that 'tis not absolutely impossible for ideas to go before their correspondent impressions. […] Suppose therefore a person to have enjoyed his sight for thirty years, and to have become perfectly well acquainted with colours of all kinds, excepting one particular shade of blue, for instance, which it never has been his fortunate to meet with. Let all the different shades of that colour, except that single one, be plac'd before him, descending gradually from the deepest to the lightest; 'tis plain, that he will perceive a blank, where that shade is wanting, and will be sensible, that there is a greater distance in that place betwixt the contiguous colours, than in any other. Now I ask, whether 'tis possible for him, from his own imagination, to supply this deficiency, and raise up to himself the idea of that particular shade, tho' it had never been conveyed to him by his senses? I believe there are few but will be of opinion that he can; and this may serve as a proof, that the simple ideas are not always derived from the correspondent impressions […].

[21] In due course, this observation will prove indispensable to Hume's theory of causation.

However, we must earnestly investigate whether or not this "one contradictory phaenomenon" (Hume, 1739/1985: 53) is indeed as serious as one may initially take it to be. Let us recall that Hume's (1739/1985: 54) ultimate intention in insisting on the priority of impressions over ideas is a refutation of the rationalist claim that the mind contains within itself "innate ideas". Let us then ask: can the idea of the missing shade of blue be regarded as an innate idea? In other words, is it conceivable to think that a neonate can possess no idea of the various shades of blue save for just this one, even though he had not as yet perceived any colours? It is evident that even if the idea of the missing shade of blue can be conceived of without a corresponding impression, it is not the case that the idea of the missing shade of blue was contained within the mind at birth or even upon its natural development. Rather, it appears that the idea of the missing shade of blue is conjured up by the appearance of the impressions of other shades of blue. [22] Hence, this exception to Hume's general principle does not in fact vitiate Hume's claim that the mind does not – indeed that it cannot – contain any ideas prior to experience. In this regard, Hume (1739/1985: 54) is vindicated in declaring that the missing shade is an "instance […] so particular and singular, that 'tis scarce worth our observing, and does not merit that for it alone we should alter our general maxim".

Now there are two significant points to be mentioned in connection with the aforementioned "missing shade of blue". The first is that we must observe that even if the mind is able to correctly conjure up the correct idea without the corresponding impression being supplied, the fact remains that the *potential* to discover the corresponding impression exists. In other words, there must exist some object somewhere in nature with the colour of that missing shade of blue. Simon Blackburn (2008: 22) refers to this as the possibility of *authentication*; i.e. "a later impression might satisfactorily *authenticate* an idea" by illustrating that it does in fact have a corresponding empirical impression. Blackburn (2008: 21-22) contrasts authentication with *pedigree*, by which he means that an idea is directly acquired by way of a corresponding impression, i.e. the shades of blue actually perceived would be termed "pedigree" in contradistinction to the missing shade (which could nonetheless be

[22] In this instance, one may justifiably maintain that even though the idea of the missing shade of blue is supplied to the mind without the corresponding impression, it is nonetheless based upon the impressions of the other shades of blue. Hence, Hume's point remains valid, viz., that without impressions one cannot possess any ideas in the mind.

authenticated). This is significant in so far as it underscores the impossibility of having a totally non-empirical idea, i.e. one which cannot possibly occur in experience. I mention this because in a later section I shall illustrate that the notion of "necessary connection", which is so essential to humanity's conception of causality, is not a pedigree and cannot, unlike the missing shade, be authenticated directly, i.e. we cannot discover in experience any genuine "necessary connection" impression.[23] Although I do not wish to anticipate my discussion, this is an important point, for if the notion of necessary connection were to turn out to be chimerical, i.e. not based on or corresponding to any impression in experience, our understanding of causation itself would be decimated, given Hume's empiricist framework.[24]

Before we conclude this discussion we must observe that the mind's ability to conjure up an idea that has never had a corresponding impression intimates that the mind, even though it may be a *tabula rasa*, is an *active* entity which permits it to produce ideas independently of impressions. This is a significant point in so far as it appears to anticipate both cognitive psychological insights as well as Kant's (1783/1985a: 40, et al.) notion of the active nature of the human mind; for Kant (1783/1985a: 13) does not consider the mind to contain innate ideas, but rather an innate structure or mechanisms, i.e. in so far as it is rational, that order sensations thereby producing the experienceable world. But the mind's ability to do this is only activated, as it were, by experiences. If an individual were incapable of observing colours then he would not be able to correctly identify the missing shade of blue. Hence, the mind may not be as passive as ordinarily assumed on the empiricist account, but its active nature is called forth solely by way of experiences and cannot exist independently thereof. In this sense experience is akin to a spark which ignites the mind into action. It follows therefore that the only genuine criticism that may be directed at Hume in this regard is that he hastily

[23] This is in fact one of the most complex aspects to Hume's discussion on causation, for he (Hume, 1748/1993a: 50) maintains that there is, of course, an impression which corresponds to "necessary connection" (for without it the idea would not be able to exist in the mind); but the impression is the feeling that arises upon witnessing the constant pairing of phenomena and not the actual "necessary connection" or link connecting two distinct phenomena together. Thus, there is an impression corresponding to the idea of necessary connection (i.e. a sentiment), but it is not the impression of an actual link or connection between two distinct phenomena, which is what is actually required.

[24] This, in fact, constitutes the essence of the so-called "general" predicament of causation, as I shall illustrate in due course.

dismisses this "one contradictory phaenomenon" without pursuing its implications to its logical conclusions, i.e. to an acknowledgement of the mind's essentially active nature.

Even though Hume (1739/1985: 54) justifiably downplays the significance of this fact by claiming that it is an "instance […] so particular and singular, that 'tis scarce worth our observing, and does not merit that for it alone we should alter our general maxim", there are in fact other ideas which do not simply and easily comply with Hume's so-called "general maxim", viz., time, space, identity, the idea of existence, and causation. Unfortunately space does not permit the possibility of exploring the difficulty inherent to each of these notions, which do not obviously correspond to any particular impressions. Let us therefore turn, without a moment's hesitation, to a consideration of the primary subject-matter of our exposition, viz., that of causation, which, as will be seen, is likewise an idea for which there is no obvious correspondent impression.

(2.4) The Principle of Causation

Now as we have seen Hume's copy principle maintains that every idea has a corresponding impression from which it is derived, for the mind does not contain any ideas independent of experience – for if, *per impossible*, the mind could contain ideas that are wholly independent of impressions, the notion of *a priori* or innate ideas would necessarily and unwittingly be admitted. That is, of course, antithetical to Hume's (1739/1985: 54-55) ultimate intentions. Now one idea which we all possess is that of *causality* and hence it is not unreasonable to enquire as to the impression from which this significant and ubiquitous notion originates.

However, before we commence in earnest upon that investigation on Hume's terms it will be beneficial to our purposes to offer a definition of the term – for if we are to identify the impression from which the notion originates we must first know *what* it is that we are looking for. However, here we encounter an insurmountable difficulty, for as Bertrand Russell (1912: 2) notes in his essay *On the Notion of Cause*, the principle of causation admits of no singular and universally agreed upon definition. As I cannot hope to offer any more unequivocal characterisation of the term, I shall merely note here by way of reiteration that Russell (1912: 2) cites the following three definitions of causation in his exposition (even though there may perhaps be others besides these):

I. CAUSALITY. (1) The necessary connection of events in the time-series…

II. CAUSE (notion of). Whatever may be included in the thought or perception of a process as taking place in consequence of another process…

III. CAUSE AND EFFECT. (1) Cause and effect … are correlative terms denoting any two distinguishable things, phases, or aspects of reality, which are so related to each other, that whenever the first ceases to exist, the second comes into existence immediately after, and whenever the second comes into existence, the first has ceased to exist immediately before.

It ought to be obvious that the three definitions identify different elements as comprising causation, and hence the difficulty in relation to defining the principle renders our search for a corresponding singular simple or complex impression difficult if not utterly impossible to discover. Hence Hume (1739/1985: 122-123) concludes that the principle of causation cannot be found "in any of the particular *qualities* of the objects; since whichever of these qualities [we] pitch on, [we] find some object, that is not possest of it, and yet falls under the denomination of cause or effect. And indeed there is nothing existent, either externally or internally, which is not to be consider'd either as a cause or an effect; tho' 'tis plain there is no one quality, which universally belongs to all beings, and gives them a title to that denomination". As a consequence thereof, Hume (1739/1985: 123) concludes that "the idea […] of causation must be deriv'd from some *relation* among objects". Let as therefore turn to an earnest consideration of these relations.

(2.5) Hume's Threefold Relational Notion of Causality

As causation does not correspond to a singular impression (Hume, 1739/1985: 122-123), Hume's (1739/1985: 123-126) claim that causation is relational in nature ultimately leads him to identify three such relations in the *Treatise*, viz., contiguity, priority of the cause to the effect or "succession" and necessary connection.[25] However, in the *Abstract* Hume

[25] In the first book of the *Treatise* Hume (1739/1985: 223-225) in fact lists no less than eight "rules to judge of causes and effects", which, unfortunately, space will not permit me to discuss and critique. The three relations discussed here are listed first by Hume (1739/1985: 223), with the third appearing as "a constant union betwixt cause and effect" (Hume, 1739/1985: 223) as opposed to a "necessary connection" as in the earlier section of the book (Hume, 1739/1985: 125) and therefore corresponding to the presentation in the *Abstract* (Hume, 1748/1993a: 129). Hume (1739/1985: 223) revealingly declares the relation of "constant union" to be the "chief

(1740/1993c: 129) identifies contiguity, priority of the cause to the effect and *constant conjunction* as the three primary relations which constitute our comprehension of the causal principle. One may justifiably wonder why Hume made this slight emendation, and I shall here anticipate a brief explication thereof, so as not to keep readers in suspense but facilitate one's comprehension of the matter immediately: it appears to me that Hume (1740/1993c: 132-133) realised that the notion of necessary connection is not in fact an observable relation among causal phenomena, but rather that it is a *feeling* or a *belief* which attaches to particular phenomena which are constantly paired or conjoined, leading one to conclude that the future shall resemble the past. I shall return to the difficult, albeit significant, matter of necessary connection in due course; but for the moment I wish to follow the three relational ideas identified explicitly in the *Abstract* and later in the first book of the *Treatise* as these will afford me a foundation upon which I can present the rather prolix discussion on necessary connection, which constitutes the pith of the predicament of causation to which Kant devoted himself to resolving. In order to render Hume's two "predicaments of causation" as perspicuous as possible I maintain that it is essential to consider the three primary relations in detail.

(2.5.1) Temporal Priority or Succession

Hume (1740/1993c: 129) notes that a primary supposition of our understanding of causality is that the cause must precede its particular effect. For instance, it seems that the Sun warms the stone upon which it shines, and not that the stone induces the Sun to shine upon it in order to heat its surface. It is therefore conspicuously evident that there is an *asymmetry* in causal relations (Mumford & Anjum, 2013: 29), such that the cause has the ability to produce the effect, but the latter cannot produce the former (Mumford & Anjum, 2013: 11). The notion of asymmetry is closely related to the so-called "arrow of causation" (Hawking, 2016: 164), i.e. the evident fact that causal relations appear to move solely in one direction – i.e. forwards and not backwards.

Although this notion may appear veracious, upon further consideration it will be found to be, if not utterly erroneous, at least doubtful. In his short exposition, *On the Notion of Cause*,

quality" and hence the omission of the other five qualities from our discussion cannot be considered of any great consequence.

Bertrand Russell (1912: 1) attempts to argue that "there is no such thing" as the causal principle, which is, according to Russell (ibid.) nothing more than a relic of a bygone era. The primary reason for this is the fact that physicists (arguably the only scientists in the true sense of the word, cf. Kant, 1786/1985b: 4-5) never actually have recourse to causal explications in their scientific disquisitions (Russell, 1912: 1). In order to better apprehend this, one need only consider the fact that theoretical physicists perpetually make use of mathematical equations, which may arguably be regarded as the "language of the cosmos", in their formulation of hypotheses and theories regarding the nature and structure of the Universe. Now a mathematical equation is *symmetrical*, i.e. it can just as well be comprehended from left to right as from right to left. As a consequence thereof, physicists are naturally led to the conclusion that, as Mumford and Anjum (2013: 11) note, "the directionality of causation is not really a feature of the world because in its scientific formulation it can just as easily run in the opposite direction". Now, what this amounts to in the last analysis is that events in the experienceable world can, in theory at least, occur in one direction just as much as in the other; there is nothing inherent to the so-called "laws of nature", according to modern physics, which precludes one possibility over the other. And yet, in spite of these foregoing remarks, we are obliged to acknowledge that according to our experience of nature, events do appear to us to move in a particular direction. Let us therefore challenge the view proposed by Russell.

In this regard the notion that mathematical equations are entirely symmetrical may in fact be subjected to scrutiny. We can most conspicuously discern this in the consideration of rather simplistic equations such as 2 + 2 = 4. It is not entirely evident that upon inverting the equation that 4 = 2 + 2, for four may also be a consequence of adding one and three (4 = 1 + 3) (Mumford & Anjum, 2013: 11). Hence, as there is in fact an element of asymmetry in mathematical equations, Russell's (1912: 1) foregoing claim must at least be regarded with circumspection. Moreover, it must strike everyone as bizarre to claim that there is no asymmetry in existence, for the life one presently lives must be vastly dissimilar to the way in which it was lived twenty or even ten years ago; hence it does not appear that life is symmetrical. Indeed, the life of all creatures proceeds in a highly asymmetrical manner, from blissful childhood to invigorated adulthood, followed by the decrepitude of old age with the infirmities that so often go with it, and finally concluding in the listlessness of a shrunken and dilapidated corpse. Each age of life thus appears to be distinct from every other and hence it ought to be evident that the natural course of life is highly asymmetrical.

Given this last remark, I may be permitted to observe here that as causation appears, like time,[26] to move solely in one direction, it may strike a scientifically minded reader that the matter of causation may be sufficiently explicated by way of entropy, i.e. the notion that the Universe is moving from an ordered to a disordered state (Hawking, 2016: 164). This may indeed offer some explication for the asymmetry we witness in existence, i.e. the Universe is constantly becoming more disordered and thus tomorrow will not be akin to today or yesterday.[27] But reflecting upon this notion we may immediately feel that such a description does not adequately explicate causation, for to avow that causality is merely an augmentation in entropy or disorder is not really to explain *it as a principle*, but merely to describe the consequences which will result from its processes.

In spite of the apparent failure to prove the symmetry of all events by way of mathematical equations as Russell (1912: 1) attempted to do, there is yet another way in which Hume may be challenged in connection with this relation. For Hume's notion of temporal priority or succession intimates that there must be a "finite lapse of time" (Russell, 1912: 7), however brief, between a cause and its attendant effect, such that we can distinguish the former from

[26] Hume (1739/1985: 84) propounds an interesting view of time – and one which I once earnestly entertained, although I must confess that I am no longer entirely certain of its veracity – viz., that *time is equivalent to causation* in so far as time can only be measured by way of change. In order for one to fully comprehend the profundity of this notion one should consider the possibility entertained by modern physicists that as the entropy in the Universe augments there shall come a point in the Universe's evolution when there will no longer be any alteration, i.e. entropy will increase to such an extent that no stars and planets can be either destroyed or created; hence the Universe will remain in an utterly *inert* state. I enquire: can one conceive of time in such a Universe? Can one imagine the passing of time in an unchanging Universe? I think the answer is self-evident. Were the equivalence of time and causation veracious I conjecture that it would have profound implications for physics and our understanding of the Universe; but as it is equally impossible to imagine an endless duration of an inert state without the concept of time I remain guarded as to my conviction of this notion.

[27] I may be permitted to add here that entropy also explicates a fact of human life, viz., that we often feel the past to have been better than the present or the future. When a child is born there is relatively *less* entropy in the Universe than there will be when he is seventy or eighty years old; but, likewise, for the child born at the time when the aforementioned man is seventy or eighty there is also relatively *less* entropy in the Universe than there will be when she is seventy or eighty, and so on and so forth. Thus, although we all born into a Universe with relatively high entropy, i.e. when compared to the state of entropy at the time of the Universe's formation, we all commence life in a state of relatively low entropy and end it in a state of relatively high entropy, i.e. the Universe's state of disorder relative to the individual creature's existence.

the latter. Consequently, it is assumed that a cause must first occur, followed by its attendant effect.

But if we consider Hume's (1740/1993c: 130) illustration of Adam observing the impact of two billiard balls, we must note that the cause of the second billiard ball moving is not in fact the movement of the first ball towards it, but the *precise* moment the first ball touches the second. In that fleeting moment the first ball can be said to have transferred its energy to the second and thereby caused it to move. Thus, it would appear that cause and effect occur *simultaneously*, as opposed to Hume's (1739/1985: 123-124) view that causes perpetually precede their effects.

In response to this criticism of the priority of the cause in time to its effect one might invoke the argument that if all causes and effects were to occur simultaneously there can be absolutely no possibility of alteration and, consequently, time within the Universe for all causes and effects would occur together, i.e. simultaneously, in a single moment; as Hume (1739/1985: 124) strikingly expresses it:

> Now if any cause may be perfectly contemporary with its effect, 'tis certain, according to this maxim, that they must all of them be so; since any one of them, which retards its operation for a single moment, exerts not itself at that very individual time, in which it might have operated; and therefore is no proper cause. The consequence of this wou'd be no less than the destruction of that succession of causes, which we observe in the world; and indeed, the utter annihilation of time. For if one cause were cotemporary with its effect, and this effect with *its* effect, and so on, 'tis plain there wou'd be no such thing as succession, and all objects must be co-existent.

Hume (1739/1985: 124) appears doubtful that this argument is a satisfactory one and for good reason; for is seems to me that the foregoing argument is in fact specious in so far as it assumes the constant occurrence of causality throughout the Universe, i.e. that every moment a causal relation occurs and that the Universe itself cannot exist otherwise. But this is evidently false, for a causal event can occur after which I can conceive objects remaining in an altered state for some time before being acted upon once again. In short there is no reason to assume, as Hume (1739/1985: 124) appears to do, that causation must unremittingly occur;

for if it did, then I might be compelled to accept Hume's argument in this particular, but as I conceive that a simultaneous causal relation may occur and that this altered state may persist in its current form for some time before another causal occurrence, I cannot accept Hume's (ibid.) conclusion, viz., that the simultaneity of causal occurrences renders all events one.

Now as the matter pertains directly to the primary subject of our exposition, I must observe that in his discussion of causation in the *Second Analogy* Kant (A203-A204/B248-B249) himself appears to intimate – in contradistinction to Hume's (1740/1993c: 129) pronouncement – that a cause and its particular effect can – and indeed, often do – occur simultaneously. Kant (A203/B248-B249) offers a number of seemingly irrefragable illustrations of his point; for instance, he notes the simultaneity of a heated room and a heated stove and a leaden ball and an indented pillow. But upon closer consideration it becomes evident that although the cause and effect occur simultaneously the cause must necessarily precede its effect, for, as Kant himself points out, attempting to argue in favour of the inverse order is, in the final analysis, utterly nonsensical, i.e. we cannot conceive a stove's heat to be the consequence of a heated room, but we can conceive a room to be heated as a consequence of a heated stove; in like manner, we can conceive a leaden ball causing an indentation in a soft pillow, but it does not follow that an indented pillow should of necessity produce a leaden ball upon it, i.e. other heavy objects may equally produce such an indentation in the pillow. Thus, although Kant (A203/B248-B249) sagaciously acknowledges the simultaneity of cause and effect, this in no way refutes Hume's (1740/1993c: 129) claim for the priority of the cause to its attendant effect and consequently we can rule out Kant's response to Hume as pertaining specifically to this first relation, for the two great thinkers appear to concur on this particular point regarding causation.

(2.5.2) Temporal and Spatial Contiguity

I turn now to the second quality inherent to causal relations identified by Hume (1740/1993c: 129), viz., temporal and spacial contiguity. It appears that in order for one object or event to cause or influence another the two must be close in both spatial and temporal proximity. If, for instance, an earthquake were to occur in Italy (in the areas of Pompeii or Herculaneum) today one would not attribute its cause to the eruption of Mont Vesuvius on the 24th of August 79AD. The reason, of course, is that the one event occurred at too great a temporal distance from the other; hence the distant temporal proximity between the two events

precludes any causal association. If, on the contrary, Mount Vesuvius were to erupt presently and there were concomitantly earthquakes within the same region, one would not be opposed to the intimation that the eruption and earthquakes are in some way causally related.

Likewise, if a volcano erupts on Jupiter's moon Io today one would not regard it as responsible for an earthquake upon Earth at precisely the same moment. In this case the spatial proximity of the two events is too great and hence any causal association must be dismissed.

These notions must have seemed self-evident to Hume and it is undoubtedly difficult to refute them in accordance with a Newtonian view of the Universe. However, nowadays, in our Einsteinian Universe, such notions may be challenged. In order to refute the notion of temporal contiguity we may consider the fact that it takes sunlight approximately eight minutes to travel from the Sun to the Earth. Thus, the Sun's impact upon the Earth is not as immediate as one might imagine it to be and hence we may take this phenomenon as a refutation of Hume's (1740/1993c: 129) insistence for temporal (and even spatial) contiguity in causal relations.

But perhaps some will claim that eight minutes – although not immediate – is not truly sufficient to refute Hume's claim, for on a cosmic scale eight minutes is much like the blink of an eye. In response thereto, let us imagine the harrowing possibility of an enormous star dying in a supernova explosion ten thousand light years from Earth. Let us imagine further that the energy from this supernova explosion would be able to incinerate Earth upon its contact with the planet. The one event (the supernova explosion) occurred ten thousand light years in the past, but its effect (the incineration of the Earth) occurs ten thousand light years thereafter. In this particular case, it is not at all evident that temporal (or for that matter, spatial) contiguity was an essential aspect of causation. Indeed, as paradoxical as it may appear, the temporal (and spatial) distance between the cause and effect in this case is so vast that the Earth would ultimately be destroyed by an entity that potentially no longer exists!

In like manner, spatial contiguity can be refuted as a necessary quality of causation by way of a consideration of quantum entanglement (Mumford & Anjum, 2013: 37). Quantum entanglement refers to the peculiar nature of particles, whereby "the properties of two particles [appear] connected, such that a measurement on one seems to guarantee the

outcome of a measurement on the other" (Mumford & Anjum, 2013: 37) in spite of vast spatial distances between the two particles. This was considered particularly problematic in so far Einstein's special theory of relativity maintains that light is the fastest moving entity in the Universe (Fox & Keck, 2004: 77-78), i.e. nothing can travel faster than the speed of light because when an entity (and it is doubtful whether anything but light can here be considered possible) approaches the speed of light its mass accumulates to such a degree that it becomes, in a sense, "infinitely heavy" and consequently cannot exceed the speed of 186,000 miles per second, i.e. the speed of light (Fox & Keck, 2004: 250).[28] Yet quantum entanglement intimates that two extremely distant particles can immediately causally interact. I mention this seemingly tangential fact because it may be that quantum entanglement is not in fact a causal process but something as yet unknown to us. Be that as it may, the most cogent explanation for now is that there is a causal connection between the two distant particles and, for our purposes, this suggests that causality can in fact operate at great distances, thereby undermining Hume's (1740/1993: 129) claim that spatial contiguity is a necessary condition of causation.

Now given that Kant also wrote in a pre-Einsteinian period it may be assumed that, like Hume, he would not have objected to the essentiality of spatial and temporal contiguity of causal events. Hence, although we may nowadays be sceptical of the pertinence of such a relation in causal conceptions, this would not have appeared evident to Kant and we may preclude this second relation as constituting the pith of the predicament to which Kant (1783/1985a: 6) directed his "solution". In corroboration of my claim I wish only to observe that all the illustrations of causation which Kant (A203-204/B248-249; 1783/1985a: 44, et al.) offers are conspicuously and unequivocally temporally and spatially contiguous.[29]

[28] The underlying notion, so it seems to me, is that because energy is equivalent to mass – as expressed in Einstein's famous equation of $E=mc^2$ – the amount of energy accumulates to such a degree when an object reaches the speed of light that its mass becomes so great that it cannot travel any faster.

[29] Although Kant (1783/1985a: 44n1) gives as an example of a causal relation the Sun shining upon a stone, inducing the latter to "grow warm", there is absolutely no indication that he thought the Sun's distance from the Earth presented any difficulty in terms of causation's spatial and temporal contiguity.

(2.5.3) Constant Conjunction

Hume is perhaps most renowned for the third quality he identified as constituting our understanding of causation, viz., constant conjunction. Interestingly, in the *Treatise* Hume (1739/1985: 136) intimates that the discovery of the constant pairing of a cause and effect as constituting a third relation of causality was haphazard and it is interesting to note that it was originally the matter of *necessary connection* which Hume (1739/1985: 125-126) sought to ground in a particular impression that ultimately leads him to the discovery of constant conjunction.[30] As I shall illustrate in due course, this is no arbitrary coincidence but in fact forms the foundation upon which Hume (1740/1993a: 49-53, et al.) ultimately explicates the origins of the idea of necessary connection. However, Hume (1739/1985: 136) initially states that

> […] this new-discover'd relation of a constant conjunction seems to advance us but very little in our way. For it implies no more than this, that like objects have always been plac'd in like relations of contiguity and succession; and it seems evident, at least at first sight, that by this means we can never discover any new idea, and can only multiply, but not enlarge the objects of the mind. It may be thought, that when we learn not from one object, we can never learn from a hundred, which are all of the same kind, and perfectly resembling in every circumstance.

Hence, it ought to be obvious that no matter how frequently two objects are paired we can never acquire the actual impression[31] of a necessary connection by way of that union. Be that

[30] In the *Abstract*, however, Hume (1740/1993c: 129) immediately lists "constant conjunction" as the "third circumstance" of the causal principle. Perhaps this is due to the fact that in the *Treatise* Hume was writing without any preconceived conception when he haphazardly stumbled upon the notion of constant conjunction. Subsequent to the publication of the *Treatise*, however, Hume (1740/1993c: 129) appears to have become entirely aware of the significance of constant conjunction – and having not been able to establish the notion of "necessary connection" upon a solid foundation, he seems to have relinquished the idea, i.e. of "necessary connection", as spurious, given that is based upon an impression of sentiment and does not correspond to any genuine "necessary connection" impression.

[31] As I shall shortly indicate there is indeed an impression corresponding to the idea of necessary connection (for without such an impression the notion would be an "innate idea"), but it is not the *actual* impression of necessary connection. What I mean by "actual impression" is one which corresponds entirely with its idea. To

as it may, the relation of constant conjunction is presented by Hume (1739/1985: 136) as arguably the most significant and essential of the three relations, for "contiguity and succession are not sufficient to make us pronounce any two objects to be cause and effect, unless we perceive, that these two relations are preserv'd in several instances".

As shall shortly become evident, however, this pronouncement boldly made by Hume is not entirely correct – for like contiguity and succession (or priority of the cause to the effect), the constant pairing of two phenomena does not necessarily betoken any genuine connection between them, but may, for all one knows, be "arbitrary and casual" (Hume, 1748/1993a: 27). For instance, there may be no causal relation between wearing a religious symbol around one's neck and narrowly avoiding a life-threatening catastrophe, even though the two phenomena may (often) be conjoined. Or, to make another, arguably more perspicuous illustration, the fact that many ships purportedly went missing on Fridays which happened to coincide with the thirteenth day of any given month in no way means that "Friday the 13th" is somehow imbued with magical causal properties. What we require is precisely that which has proved to remain so elusive, viz., the *actual* impression of necessary connection itself, whereby one object or event can be shown to be unequivocally connected to another object or event.

But the matter of grounding the notion of "necessary connection" cannot be overestimated; for Hume is, as will be recalled, a content empiricist (Merrill, 2010: 99) – maintaining that all ideas derive ultimately from experience, for *nihil in intellectu nisi prius in sensu*[32] (Merrill, 2010: 99). Thus the notion of necessary connection cannot be congenital but must be expected to arise by way of some experience. However, when Hume (1748/1993a: 18-19, et al.) attempts to discover empirically a correspondent impression for the idea of necessary connection he finds himself at a loss, i.e. he never observes "the supposed tie of connexion between the cause and effect" (ibid.). The fact that this endeavour proves to be so difficult upon the radical empiricist enterprise does not thereby mean that the notion of necessary connection is chimerical. On the contrary, as it is evident that we possess such a notion (of necessary connection) we must be able to account for it by way of some experienceable

illustrate my point, let one consider the way in which the impression of a red circle corresponds to the idea of a red circle, i.e. both are identical and in this way the impression may be termed "actual".

[32] "There is nothing in the intellect (or mind) that was not first in the senses".

phenomenon (vide, Hume, 1748/1993a: 41), for if we cannot do so then it may be that the notion is innate and hence the entire empiricist project – or at least, the "absolute" form thereof – must crumble to dust and ultimately be regarded as erroneous.

Let us, then, commence by offering a definition of the term. In essence, constant conjunction is nothing more nor less than the frequent pairing of phenomena. In other words, one observes one type of phenomenon frequently followed by another type of phenomenon and one subsequently declares the former phenomenon to be the cause and the latter phenomenon the effect (Hume, 1740/1993c: 129). As I mentioned, of the three relations Hume (1740/1993a: 129) identifies as essential to our understanding of causation, he declares constant conjunction to be the chief quality thereof (Hume, 1739/1985: 223). Thus, it ought to be evident that constant conjunction in particular is responsible for our formation of the principle of causation, and it is the relation to which Kant (1783/1985a: 6, 54-55, et al.), as we shall observe in due course, exclusively concerns himself. But what, we may justifiably enquire, does constant conjunction afford the understanding besides the constant repetition of similar phenomena? Or to express this another way: why should one acquire the notion of causality upon observing one set of similar phenomena *frequently* occur either before or after another set of similar phenomena? In short, how does *repetition*, which is not itself an impression, lead to the notion of causality? Indeed, it is odd that consistency should somehow bestow upon the mind the notion of necessity when a hundred instances of a particular phenomenon "are nowise different from [a] single one" (Hume, 1748/1993a: 23).

In order to give some answer to these foregoing questions, which are in essence identical, mention must be made of the significance of *feeling* and *belief*, for according to Hume (1748/1993a: 50, et al.) the frequent conjunction of similar phenomena induces one to *feel* or *believe* that a necessary connection exists between one set of phenomena and the other, in spite of the fact that no single impression corresponding to necessary connection is in fact observed between them. However, in declaring sentiment to be the provenance of this notion, i.e. of necessary connection (Hume, 1748/1993a: 50), Hume (1748/1993a: 41) has in fact attained his radical empiricist goal of grounding the idea in an impression, which indicates that the notion cannot be considered innate or congenital (Hume, 1739/1985: 54-55). This is a significant point often misunderstood when Hume is erroneously taken to consider the notion of necessary connection to be chimerical due to the fact that it does not correspond to an impression of necessary connection. On the contrary, Hume (1748/1993a: 41) actively seeks

out the impression corresponding to the notion of necessary connection, but his search does not conclude in the discovery of the actual "chain", linking one phenomenon to another, but rather in the discovery of a feeling of belief based on custom or habit, i.e. constant conjunction, that one phenomenon is necessarily connected to another (Hume, 1748/1993a: 50, et al.). I shall return to this matter in due course, i.e. in my earnest discussion on necessary connection, for the moment I wish only to impart the notion that the concept of necessary connection arises by way of constant conjunction.

Yet in spite of the fact that the notion of necessary connection arises by way of constant conjunction, they are not in fact akin. Let us, therefore, continue our discussion on this important topic by expounding the essential distinction mentioned above, viz., that between constant conjunction on the one hand and necessary connection on the other. The constant pairing of objects or events does not necessarily mean that the antecedent event or object is necessarily connected to a proceeding event or an object – even if these objects and events constantly occur together. Constant conjunction means solely that two events constantly, i.e. only in so far as they have been experienced, occur together: I witness the one event followed by the other on numerous occasions. But when I conclude therefrom that the one is the *cause* of the other, there is evidently a leap occurring. For it is curious that from the notion of constant conjunction, or rather, the constant pairing of phenomena, the human mind should posit a necessary connection between the two events, which regularly occur together. For I never witness this assumed necessary connection and yet the mind evidently contains such an idea. As I mentioned, Hume (1748/1993a: 50) accounts for this phenomenon by way of a sentiment or belief; but for the moment it is essential to our discussion for one to comprehend the distinction between necessary connection and constant conjunction. The two are similar in so far as the former is evidently derived from the latter according to Hume's (1748/1993a: 50, et al.) theory, but it ought to be evident as a consequence of this aforementioned discussion that the notion of constant conjunction "implies no more than this, that like objects have always been plac'd in like relations of contiguity and succession" (Hume, 1739/1985: 136); *constant conjunction does not actually prove any genuine necessary connection between constantly paired phenomena.*

Thus far, we have been concerned with the provenance of our notion of "necessary connection" and have succeeded in illustrating that for Hume (1748/1993a: 50) it arises by way of a constant pairing of similar objects or events, which consequently leads one (by way

of custom or habit) to conclude that the one object or event is necessarily connected to the other. But the fact that we have been unable to discover the *actual* impression of a necessary connection now raises a new, albeit equally significant, concern, viz., whether the connection between two events or objects is a genuine one or merely chimerical, i.e. a construction of the human mind in an *a posteriori* sense (Hume, 1739/1985: 218).[33] This latter concern, although arising from the former, in fact constitutes the pith of the present study, for it is to this question which Kant (1783/1985a: 6) ultimately gives a response, i.e. by way of his theory of the *a priority* of the causal principle Kant (1783/1985a: 40, et al.) may be taken to illustrate that causality is no mere illusion, but a fundamental quality of all experience.[34] However, Hume (1739/1985: 218; 1748/1993a: 50-51, et al.) propounds two different predicaments based on the chimerical nature of the causal principle. In the first book of his *Treatise* Hume (1739/1985: 218) primarily propounds a *general* predicament of causation, which pertains to a scepticism concerning the reality of the causal principle itself, whereas in the first *Enquiry* Hume (1748/1993a: 50-51) appears to be primarily concerned with the *particular instantiations* predicament of causation, which need not doubt the ultimate reality of the causal principle but merely the particular causal associations that individuals propound. Thus, in the latter case, one may hold the causal principle to be a real feature of the world itself (not a mere illusion of human perception), but doubt that many (if not most) of our causal claims are indeed veracious.

But in order to avoid any confusion it is necessary to mention that in spite of my insistence upon the fact that necessary connection is distinct from constant conjunction, it remains true that, according to Hume (1748/1993a: 49-53, et al.), the latter invokes, or rather is the provenience of the former. In order to tangibly illustrate this point, let us imagine three phenomena that constantly occur together (A, B and C), let us imagine further that two of the phenomena (A, B) regularly occur before the appearance of the third (C), in this instance we are apt to regard the phenomena as constantly conjoined, for on every occasion we have witnessed the two phenomena precede the third. But now, let us imagine, that on one

[33] It is from this point that Hume's two predicaments of causation ultimately arise, as I shall now attempt to illustrate.

[34] As I hope to make perspicuous in due course, although Kant (1783/1985a: 6) seems to have directed himself to resolving Hume's particular instantiations predicament as expressed most explicitly in the first *Enquiry* he in fact offers an inadequate and seemingly fortuitous response to Hume's general predicament.

occasion we observe solely one antecedent phenomenon (A) occur prior to the third (C). In this case we shall inevitably conclude that the absent variable (B) is not essential to the production of the third (C) and hence we affirm that the two are not constantly conjoined, i.e. we do not consider the one phenomenon (B) to have *a causal or necessary connection* with the third (C). Thus, constant conjunction does indeed appear to invoke the notion of necessary connection, for when we avow that one phenomenon is constantly conjoined with another we essentially mean that the appearance of the one must necessarily invoke the other, in such a way that the two must be *necessarily connected*. Hence, although the two concepts are distinct, it is by way of constant conjunction that a *feeling* or *belief* in a necessary connection between two phenomena arises (Hume, 1739/1985: 213).

At this stage in our discussion let us observe an important point, which is often to be met with in the secondary literature (vide, Strawson, 2002: 231, et al.). We have seen that Hume (1740/1993c: 129) identifies three essential relations to the principle of causation, with constant conjunction being the most significant (Hume, 1739/1985: 223). Now as the principle of causation can be construed as essentially a matter of objects or events being constantly paired or conjoined (Hume, 1739/1985: 136), which ultimately leads one to an assumption of causality, Hume's system is often referred to as the *regularity theory of causation* (Strawson, 2002: 231). In essence, the regularity theory maintains, as its name intimates, that causality is nothing more than the constant, or regular, pairing of entities or events. Thus, one maintains that flames burn or warm other objects precisely because one has experienced flames burning and warming in the past. Upon initially learning of this view one might regard it as meritorious, for causally related events or entities are, indeed, often conjoined. However, when we consider the matter more closely, difficulties begin to appear – just as one notices cracks in the paint of an oil painting the closer one considers it. I shall in consequence of this observe a few serious criticisms of the notion of constant conjunction, which, as I mentioned, constitutes the essence of the causal principle according to Hume (1739/1985: 223); this will afford me an opportunity to elaborate on Hume's two predicaments of causation. However, before I turn in earnest to that endeavour I wish to briefly discuss an important distinction which I maintain will facilitate one's comprehension of one of the most significant criticisms that follow.

(2.6) Relations of Ideas and Matters of Fact

In order to fully appreciate the difficulty which arises from the notion of constant conjunction – which incidentally constitutes the essence of the so-called "particular instantiations" predicament to be found primarily in the first *Enquiry* – we must briefly consider a distinction explicitly first made by Hume (1748/1993a: 15) in his first *Enquiry*, viz., the difference between so-called "relations of ideas" on the one hand and "matters of fact" on the other. Even though Hume (1748/1993a: 27n1) – the radical empiricist – subsequently intimates this distinction to be at bottom superfluous, "because all knowledge must ultimately derive from experience" and hence even "relations of ideas", which are assumed to operate independently of all experience, must ultimately originate therefrom. In spite of this aforementioned point, I maintain that an understanding of this distinction will better facilitate one's comprehension of one of the criticisms I wish to present in connection with the notion of necessary connection.

Relations of ideas are those propositions entirely "discoverable by the mere operation of thought" (Hume, 1748/1993a: 15);[35] as such, the law of non-contradiction – which states that "a proposition cannot be both true and false or that a thing cannot both have and not have a given property" (Grooten & Steenbergen, 1972: 90) – pertains specifically to such statements. Hume (1748/1993a: 15) notes that "the sciences of Geometry, Algebra, and Arithmetic" are instances of such knowledge – although it would be erroneous to limit relations of ideas to mathematics – the defining characteristic thereof being that they are "either intuitively or demonstratively certain" (Hume, 1748/1993a: 15). In other words, intuitive or demonstrative propositions may be known immediately, without recourse to experience and observation, even if they are ultimately acquired by way thereof (Hume, 1739/1985: 54-55). If, for instance, I declare that 2 + 2 = 4 I not only know this immediately, without having to consider four experienceable objects, but I also apprehend that no other digit can stand *in lieu* of the number "4", for any other would violate the law of non-

[35] It must be borne in mind, as I indicated above, that even though "relations of ideas" are "discoverable by the mere operation of thought" (Hume, 1748/1993a: 15) they nonetheless derive *from experience*; for if these ideas were not initially acquired by way of experience then they would of necessity be *innate ideas*, i.e. congenital notions. Such, of course, is contrary to Hume's (1739/1985: 54-55) ultimate intentions as a radical empiricist.

contradiction. Relations of ideas are consequently propositions which are not apprehended by way of experience and are both certain and universal.

Matters of fact, on the other hand, are not intuitively or demonstratively certain due to the fact that "the contrary of every matter of fact is still possible, because it can never imply a contradiction, and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality" (Hume, 1748/1993a: 15). In other words, the law of non-contradiction, previously mentioned, does not pertain to matters of fact and hence any matter-of-fact proposition can be asserted without the least contradiction. For instance, it is possible, and consequently not contradictory, that the Sun will not rise tomorrow or that a creature will not die. However, in these two instances one will necessarily feel that although such events are possible, they are nevertheless *improbable*. Hume (1739/1985: 175) was aware of the fact that some empirical propositions are *more certain* than others; however, one can never definitively declare any matter-of-fact proposition to be definitively certain because it is always possible, however unlikely it may appear to us, that the contrary can occur. It is primarily for this reason that Hume (1739/1985: 175) reserves the term "certainty" or rather "knowledge" solely for relations of ideas and he (ibid.) posits the term "proof" for matter-of-fact propositions which seem to us so certain as to approach the apodicticity of demonstrative or intuitive knowledge.[36] Thus, matters of fact admit of two distinct varieties according to Hume (1739/1985: 175), viz., either they are probabilities (i.e. matter-of-fact propositions for which one is, to a greater or lesser extent, doubtful) or they are proofs (i.e. matter-of-fact propositions for which one is confident or fairly certain, given the constancy with which such phenomena appear in experience), but they can *never* reach the level of "knowledge" in the strict sense of the word or be apodictic in the way that mathematical propositions are certain, for the law of non-contradiction does not apply to them and hence they have the potential, however slight, to turn out differently.

All matter of fact propositions are, as Hume (1748/1993a: 16) explicitly declares, "founded on the relation of *Cause and Effect*". Hence, when one asserts that a proposition is either a probability or a proof one essentially means that the conjoining of certain phenomena has either been frequent or infrequent. The rising of the Sun, for instance, is a phenomenon so regular, i.e. occurring to an individual since one's birth, that it is taken for granted and may

[36] Kant (1783/1985a: 28) refers to such notions as "empirically certain", as I shall later discuss.

therefore be regarded as a "proof", according to Hume's (1739/1985: 175) characterisation. But there are other phenomena which occur far less frequently and in accordance therewith we may justifiably declare them to be either probable or improbable. The point is that the more *frequently* phenomena occur together, i.e. the more often they are conjoined, the more inclined we are to declare something as probable; and if, as in the case of the rising of the Sun, something occurs daily without the slightest alteration, we are consequently compelled to declare the phenomenon a "proof" or "certain in the empirical sense".[37] With this knowledge regarding Hume's so-called two-pronged "fork" (Merrill, 2010: 143), we can now proceed to a detailed discussion of Hume's so-called "particular instantiations" predicament.

(2.7) The Particular Instantiations Predicament of Causation

I wish to emphasise that it is this distinction between matters of fact and relations of ideas which, as I previously indicated, constitutes the essence of the so-called "particular instantiations" predicament to be found primarily in the first *Enquiry* and to which Kant (1783/1985a: 6) seems to have regarded himself, unjustifiably in my estimation, to have supplied an adequate solution. The particular instantiations reading is also to be found in a rudimentary form in the first book of the *Treatise*, but the notion is not in fact explored or elaborated upon therein. In this regard I refer readers to one sentence in particular in the *Treatise*, wherein Hume (1739/1985: 130) states: "*Why we conclude, that such particular causes must necessarily have such particular effects, and why we form an inference from one to another?*" This question, which encapsulates the essence of the particular instantiations predicament, although clearly mentioned, is curiously neglected in the course of the argument to be found in the first book of the *Treatise* in favour of the so-called "general predicament" of causation (to which I shall later return); but it is exhaustively pursued by Hume in the first *Enquiry*, even though the "general predicament" is latently implied in so far as Hume (1748/1993a: 50-51) maintains that "necessary connection" or "causation" arises as a consequence of constant conjunction, custom or habit, i.e. causation is as a consequence of this idiosyncratic pairing, not "out there" in the world, but solely in *us* and the peculiar way

[37] Here, again, I wish to emphasise that although one may be "certain" of the rising of the Sun, this certainty is distinct from the apodicticity which pertains to intuitive or demonstrative propositions, for it is always *possible* that the Sun may *not* rise, whereas two plus two can never equal any digit other than four. There is always an element of doubt in any matter-of-fact proposition.

in which we perceive it. In particular, as all matter of fact propositions are "founded on the relation of *Cause and Effect*" (Hume, 1748/1993a: 16) – which in essence are comprised of two distinct and separable phenomena – it follows that "any thing may appear able to produce any thing" (Hume, 1748/1993a: 113), for the notion of the effect, being a distinct phenomenon, is contained as little in the cause, which is also a distinct phenomenon, as the concept of the cause is contained in the effect. Thus, as any phenomenon can be causally conjoined with any other it follows that we can never possess any certainty regarding causal relations as we can among relations of ideas. This is the pith of the so-called particular instantiations predicament. With this significant understanding in mind let us now continue with our discussion, in which it shall become evident that there is yet another predicament, viz., the general form, to be found in Hume's epistemological writings, in particular in the first book of the *Treatise*.

With the important understanding that "any thing may appear able to produce any thing" (Hume, 1748/1993a: 113) in mind we can now turn in earnest to the aforementioned criticisms of attempting to equate causation with – or rather, reduce it to – constant conjunction, which I maintain will add to a fuller comprehension of Hume's particular instantiations predicament of causation and the difficulties of the Kantian response thereto.

(2.7.1) The Impossibility of Single or Individual Instances of Causation

The notion that the constant pairing of phenomena necessarily means their inseparability from each other – and by extension, the necessary connection between them – is however not impervious to criticism. Let us therefore commence by first noting that it may be argued that Hume's theory precludes the possibility of single or individual instances of causation.[38]

Indeed, Hume (1748/1993a: 27) himself acknowledges that one would not be led to form any notion of a causal bond or connection between two phenomena observed occurring together *solely once*. Thus, in the first *Enquiry* Hume (1748/1993a: 101-102) explicitly states:

[38] This difficulty, as I shall illustrate in due course, is equally applicable to the Kantian solution of the Humean predicament; it is consequently imperative to discuss it at some length.

> It is only when two *species* of objects are found to be constantly conjoined that we can infer the one from the other; and were an effect presented, which was entirely singular, and could not be comprehended under any known *species*, I do not see, that we could form any conjecture or inference at all concerning its causes. If experience and observation and analogy be, indeed, the only guides which we can reasonably follow in inferences of this nature; both the effect and cause must bear a similarity and resemblance to other effects and causes, which we know, and which we have found, in many instances, to be conjoined with each other.[39]

But, is it not possible that there can in fact be single or individual instances of causation? A most striking instance thereof is the formation of our Universe (vide, Hume, 1748/1993a: 102) – assuming, of course, that the Universe is not cyclical, i.e. coming into existence by way of an expansion and subsequently contracting once again into a primordial atom, only to once again expand and contract *in saecula saeculorum*[40] – which we may assume for our present purposes has only occurred on one occasion. Now, according to Hume's (1748/1993a: 27) view even if we were witnesses to our Universe's creation, i.e. assuming this to have occurred solely once, we would still not be able to pronounce on its causal origins, for observing a phenomenon solely once is, according to Hume (1748/1993a: 27), insufficient for the establishment of a causal connection. Hence, according to this view, we

[39] This paragraph appears at the conclusion of chapter XI, *Of a Particular Providence and a Future State*, wherein Hume (1748/1993a: 93-101) initially appears to have been arguing in favour of the possibility of being able to infer a single instance of causation from its effects. To that end Hume (1748/1993a: 100n1) maintains that a cause should be proportioned to its effects and more than is found in the effect cannot be assumed to exist in the cause. This is clearly erroneous, for one can at times obtain a disproportionate effect from a cause, such as an atomic explosion from nuclear fission. Thus, we must assume that if Hume experienced a nuclear explosion solely on one occasion he would not have been able to determine its correct cause. Perhaps being in doubt concerning the veracity of his aforementioned claim, Hume (1748/1993a: 101-102) sagaciously concludes with the abovementioned observation, which intimates, in my estimation, that he rejects the notion of ever being able to discover single instances of causation. I mention this solely in order to anticipate possible objections to my thought, which I am then able to respond to immediately.

[40] It would be solely a creature capable of regarding the perpetual creation and destruction of these Universes *sub specie aeternitatis* that would be able, according to Hume's theory, to propose a causal relation for the creation (and subsequent destruction) of such Universes. This is, of course, inconsequential as far as humanity is concerned, for we are finite beings and can consequently never hope to witness the creation and destruction of a plethora of Universes. I mention this fact solely for the sake of interest and because I am so pedantic in my style.

would necessarily be led to the seemingly bizarre conclusion of the Universe coming into existence *without* a cause thereof.[41] Yet, it is evident that scientists who have believed our Universe to be a once-off or single occurrence have perpetually sought for the cause of its existence, even if that cause has remained permanently elusive. The predicament of single or individual instances of causation, if I may be permitted the expression, is therefore a conspicuous difficulty with Hume's notion of constant conjunction and may be considered a first refutation thereof.

As it is incumbent on me to anticipate all possible counter-criticisms I wish to note that In a footnote in the first *Enquiry* Hume (1748/1993a: 71n1) inconsistently and uncharacteristically intimates that familiarity with the regularity of all nature in general may in fact allow one to make accurate causal claims from "even one experiment"; thereby intimating, contrary to his repeated assertions elsewhere (vide, Hume, 1748/1993a: 27, 49, et al.), that a single instance of conjunction is insufficient to establish the notion of necessary connection; but as this may be considered a potential refutation of my foregoing argument I feel compelled to consider it at some length.

Two considerations are most pertinent in this regard. Firstly, if one were able, *per impossible*, to be present at the origin of our Universe one would have had absolutely no prior experiences, for the Universe itself is a precondition to any possible experiences. Hence, one would not have been able to acquire the notion of the regularity of nature and thus would one be akin to Adam, whom Hume (1740/1993c: 130) utilizes in a thought experiment to prove the impossibility of apprehending causal relations without any prior experiences.

But, secondly and perhaps more importantly, supposing that by some miracle one were able to acquire a familiarity with nature without actually having observed and experienced it, the conclusion that we should then be able to correctly identify the cause of the Universe from solely one instance of conjunction simply does not follow. For in that chaotic moment one would have been presented, I assume, with a plethora of rapidly shifting phenomena and forms; how then, I ask, in all that confusion would one have been able to correctly identify the true cause of the Universe's existence? Supposing there to have been manifold

[41] Of course, it is possible, as Hume (1739/1985: 126-127) acknowledges, to conceive the Universe as coming into existence without a cause, but I conjecture that few, if any, actually believe this.

simultaneous occurrences at the moment of the Universe's creation, one individual may consider the cause to be one entity, another might consider it to be yet another, and a third may even consider it to be something else entirely, and so on and so forth. All these potential causes – given that they have only been presented *once* – must strike us as equally possible and hence we should not in fact be inclined to accept one cause over another.

But, it may be argued in response, that my assumption of a plethora of rapidly shifting phenomena at the birth of our Universe is utterly unfounded; consequently, one may just as well assume that there was solely one phenomenon followed by another at the genesis of our Universe, how then could we be in any doubt that the one was the cause of the other? In response thereto, I shall make two counter observations. Firstly, it must be recalled that it is only *frequency* of conjunction which augments the feeling of *belief* in one phenomenon being the cause of another (Hume, 1748/1993a: 50); however, in this case we have solely one event and consequently we shall never be able to obtain the sentiment of belief thereby. And, secondly, we cannot definitively exclude the possibility of unobserved or inexperienceable phenomena, i.e. secret or hidden phenomena – a matter Hume (1739/1985: 182) himself acknowledges, but which, unfortunately, space will not permit me to discuss. These observations necessarily lead me to tentatively reject Hume's theory of constant conjunction as offering an adequate explication for causation, or rather the regularity we observe in nature; for in the Humean theory *frequency* is indispensable to the formation of one's notion of causality (Hume, 1748/1993a: 50, 101-102 et al.) and yet it is evident that single instances of causation may exist. In due course, viz., in the second section on the Kantian solution to the Humean predicament, I shall illustrate that Kant's (cf. 1783/1985a: 54-55) response is likewise susceptible to the difficulty of single instances of causation, thereby undermining its credibility.

(2.7.2) The Constant Conjunction of Non-Causal Relations

Secondly, just as some phenomena appear never to be causally associated when in fact they are due to the pernicious influence of "contrary causes" (Hume, 1739/1985: 182), so the contrary situation, i.e. wherein phenomena are perpetually associated but not in a causal manner are erroneously regarded as causally related, may be proposed as a further refutation of Hume's (1740/1993c: 129) claim of constant conjunction being an essential property of our notion of causation. To this end, some, such as Mumford and Anjum (2013: 103),

maintain that far from proving the necessary connection between phenomena, constant conjunction in fact *undermines* it. Let us take as an illustration of this point the constant conjunction between the concepts of "dog" and "mammal". All dogs are evidently mammals, such that the concepts are perpetually conjoined; but their constant pairing does not mean that being a dog causes a creature to be a mammal any more than being a mammal causes a creature to be a dog. Now the primary point to be gleaned from this illustration is that when we consider this matter we find that the concepts of "dog" and "mammal" are constantly conjoined and yet not in a *causal* manner. Just as causal relations can on some occasions be vitiated or prevented from coming into being by way of "contrary causes" (Hume, 1739/1985: 182-183), so it would seem that non-causal relations can be constantly conjoined leading one to an erroneous assumption of a causal relation.

It seems to me that the only cogent response to this difficulty is to accept, as Mumford and Anjum (2013: 103) correctly observe, that "a real, exceptionless constant conjunction might be taken as a good reason for saying that we do not have causation". In other words, contrary to Hume's (1739/1985: 136) assertion, it does not appear that constant conjunction is the most significant or essential attribute or relation in our causal apprehensions, for, I reiterate, we have non-causal relations that are constantly conjoined and causal relations that are not.

Now if one objects to the above illustration by way of observing that Hume's theory pertains to the relation between *events*, whereas being a mammal and being a dog are not events, I offer another closely related, albeit far more cogent (in so far it addresses the present concern), illustration. In his doctoral dissertation Schopenhauer (1813/2015a: 26) claims that Hume's argument regarding causality as a form of constant conjunction is evidently false, "and it is also not hard to refute". Indeed, for Schopenhauer (1813/2015a: 85) one simple observation suffices to disprove Hume, viz., the fact that no one – not even since antiquity – has been deceived into thinking that night causes day (or *vice versa*) even though the two events regularly follow each other. In other words, if the mind arbitrarily conjoins two events which happen to regularly or frequently follow each other and assumes a necessary connection to exist between them, why has no one ever ventured to assert that night causes day or *vice versa*?

In response thereto we may note that it would appear that for Schopenhauer (ibid.), following upon Kant's (1783/1985a: 40) notion of the *a priority* of the causal principle, the mind itself

must be aware of causal connection (for the constant pairing of phenomena is insufficient to explicate one's apprehension of causation), i.e. the mind must be able to correctly identify causality within experience. But this is evidently false upon Kant's (1783/1985a: 54-55) own terms which likewise entail a form constant conjunction,[42] and in response to Schopenhauer (1813/2015a: 85) I may be permitted to observe that even though no one has been foolish enough to believe that night is the cause of day, or *vice versa*, humanity was not able – not at least until Copernicus revived the ancient Greek notion of heliocentrism (Russell, 1954: 19) – to correctly comprehend the causal mechanism responsible for the constant alternation between day and night.[43] Although I do not wish to anticipate the conclusion of my exposition, this observation, viz., that individuals often err in the identification of the *verae causae*, intimates in a most forceful and striking manner that whatever is responsible for the order or regularity found in the Universe is something that must exist *independently* of the mind, for if it were veracious that the causal principle emanated *from* the mind then it seems to me that one should be capable of accurately and immediately being able to identify the *verae causae* within nature. Yet, instead, we find the mind positing manifold *causae occultae*, which in many instances do not even approximate to the Truth.[44]

(2.7.3) Causal Connection as Arbitrary and Casual

This last point necessarily leads us to another complication with constant conjunction being an essential property of our conception of causality. However, this difficulty is different to the two previous criticisms in so far as it does not refute constant conjunction as an essential property or relation of causation, but, rather, it pertains to the *consequences* that emanate therefrom. So far as I am aware, Hume does not explicitly deal with this difficulty – not, at least, at great length – but it is tacitly admitted by him in the *Treatise* (Hume, 1739/1985: 166) and fleetingly mentioned in the first *Enquiry* (Hume, 1748/1993a: 27). In being presented with phenomena that constantly follow each other it may be argued that we attend

[42] A matter to which I shall return in connection with Kant's supposed "solution" to Hume's predicament.

[43] This is a criticism which pertains as much to Kant as it does to Schopenhauer. If causality emanates from the mind, then why does the mind often err regarding its causal conjectures? I shall not here attempt to explore this difficult matter; but I feel compelled to observe it because it is of extreme pertinence to the Kantian view, which I shall hereafter have occasion to present and critique at length.

[44] At least the Truth as we perceive it to be once we have identified it.

solely to a few variables and thereby assume causality where none in fact exists, hence the conjunction between phenomena "may be arbitrary and casual" (Hume, 1748/1993a: 27).[45]

To express this in more tangible terms, it may be that I constantly witness Y follow upon X, but perhaps there is not solely one phenomenon antecedent to Y but numerous others, such as U, V and W, of which I remain ignorant – yet my ignorance of these numerous other variables does not thereby mean that they are not extant or that they do not have a bearing upon the effect (Y) under consideration. Indeed, in one's attempt to discover the cause of any effect one necessarily assumes, even if tacitly, that the identified cause is the *vera causa* and not a spurious one. But, I reiterate, how are we to know this if we never, as Hume (1748/1993a: 49-50, et al.) states, observe the connection between a particular cause and its particular effect? In that case, how am I to ascertain that it is indeed X which is responsible for the appearance of Y and not the hidden variables U, V and W? If, as we have seen, causality amounts to nothing more than contiguity, priority of the cause to the effect and, most significantly, constant conjunction it does not seem at all possible to settle this difficulty. Indeed, the connections we posit may for all we know be "arbitrary and casual" (Hume, 1748/1993a: 27) and not truly causal at all.

Now this matter is of colossal significance in terms of its *practical implications* for all spheres of human life – but in particular in the disciplines of science, medicine and jurisprudence. The medical practitioner who wishes to restore his patient to health must attempt to determine the *vera causa* of an illness, just as a judge wishes to know the *vera causa* of a criminal's heinous acts of violence in order to ensure an accurate prosecution. For if the medical practitioner attributes the wrong cause to his patient's illness he will not be able to cure him of his malady, just as the judge who incorrectly attributes the criminal's violence to self-defence will acquit him and thereby do a disservice to justice. It is evident that in these instances, as in innumerable others which everyone may conjure up in his own mind, the discovery of the *vera causa* is essential. Yet nature does not readily disclose her causes and their attendant effects; on the contrary nature presents herself as often inscrutable (cf. Hume, 1748/1993a: 21). As a consequence it is often difficult, if not utterly impossible,

[45] This criticism, too, is as applicable to the Kantian response as it is to the Humean conception of causation. I am therefore compelled to present it in order to illustrate in due course that Kant's solution cannot in fact offer a cogent response to this difficulty.

to discover the true causes of phenomena in nature's infinite book of secrecy.[46] This observation clearly pertains to Hume's "particular instantiations" predicament (as, indeed, do all the arguments in this specific section), to which Kant (1783/1985a: 6) took himself to have offered a cogent response. Even if, one accepts the reality of the causal principle in a general sense (cf. Kant, 1783/1985a: 40) this can in no way prove that what I assume to be causally related really is, i.e. in actuality, so conjoined.

To this, however, one may attempt a response by appealing to what we may refer to as the "complication of causes" (Hume, 1748/1993a: 71n1). In nature, it may thus be argued, manifold phenomena occur together, such that it becomes difficult, if not utterly impossible, to know for certain whether one phenomenon is indeed the true cause of another; but under controlled experimental conditions this difficulty may be greatly mitigated, if not entirely removed. Thus, do scientists attempt to control so-called "extraneous variables" by observing the effects when attention is restricted solely to one particular object or event. But although this procedure is indeed meritorious in its attempt to isolate phenomena, thereby removing the "complication of causes" (Hume, 1748/1993a: 71n1), I am compelled to propose the ultimate futility of such an endeavour. In this respect I shall only observe that it is beyond all doubt and controversy that there is much in the Universe that we are incapable of experiencing and consequently of acknowledging. Just as modern technology has made us sensible of the fact that there are sounds for which the human ear remains deaf or certain frequencies of light for which the human eye remains blind, so I conjecture that there may be manifold extant phenomena all around us for which we humans remain insensible, dumb and ignorant. How, then, I enquire in all earnestness, can the scientist ever truly hope to control *all* extraneous variables when there may, for all we know, be an innumerable plethora thereof utterly unknown to us? The scientist may isolate all *known* superfluous variables and then proceed to observe the consequences of his experiment; but even supposing his experiment illustrates a positive correlation between the one, isolated, phenomenon and the anticipated effects, how can he know for certain that there is not some unobservable phenomenon which

[46] As I shall argue shortly, viz., in the section on "Necessary Connection", that it may be that something other than causality which is responsible for the order and regularity we observe in macroscopic nature. If that is the case, then it becomes redundant to speak of "true and occult causes". However, we may still wonder if the phenomena which appear conjoined (even if not by causation) truly are.

is truly responsible for the effect, as opposed to the one originally identified by him? The inscrutability of nature to her utmost depths renders all certainty untenable.[47]

Now if Kant is to truly offer a cogent response to Hume's particular predicament of causation, as he claims to do (Kant, 1783/1985a: 6), then it follows that he must be able to illustrate that the mind can discern the *vera causa* of a particular effect even when we are presented with a plethora of potential causes. I do not want to anticipate my conclusion, but I think anyone who considers the matter in earnest will be led to the view that such an occurrence is in actuality utterly impossible, even if a philosopher is able to argue for such a position by way of fanciful and witty theories, for the idea of a particular cause is not contained in the idea of a particular effect given that the two phenomena are fundamentally separable.

(2.7.4) The Predicament of Induction

Before we conclude this section there is one final, albeit important, matter that warrants discussion, viz., Hume's famous – or to some, infamous – attack upon induction. I maintain that Hume's (1739/1985: 184; 1748/1993a: 22) scepticism regarding the distant and inexperienceable past and future definitively illustrates that the Humean theory is inadequate in explicating the regularity and order we find in nature, and may therefore be considered a sixth and final criticism of the notion of constant conjunction. Moreover, and more significantly, the difficulty of being able to know anything with certitude pertaining to the inexperienceable past, present and future constitutes the essence of Hume's two

[47] As I consider all religious founders to be human in the true sense of the word I cannot accept the claim that religious teachings can here enlighten us and "fill the void of ignorance", as it were. As those religious founders possessed the same five senses, which we ourselves – and all humanity – possess, I confidently affirm that what is experienceable by us *now* was experienceable by those individuals *then*, and I reject any claims that individuals from a more primitive era of human history somehow had greater access to the mysteries of the Universe than we moderns do. Hence, it is not possible that any human could have experienced that which, by its very nature, transcends all human experience. Thus, I may be permitted to invoke Hamlet's words, albeit in a somewhat different sense to the way in which they are intended in the famous play: "there are more things in Heaven and Earth, Horatio, than are dreamt of in your philosophy" (Shakespeare, Hamlet, 1.5.165-166); many things, I might add, in Heaven and Earth of which we are and shall remain ignorant: *ignoramus et ignorabimus*.

predicaments; as such, we are compelled to reflect on the problem of induction at some length.

Let us for our present purpose, succinctly define induction as the "transition from the concrete individual data of experience to abstract-absolute intellectual knowledge" (Grooten & Steenbergen, 1972: 208). In other words, induction is the supposition that "*the future [and distant present and past resemble] the [present or the experienceable] past*" (Hume, 1739/1985: 184). Now it is evident that our span of time upon Earth is finite – and this is true of both the individual human life and that of the species in general – as such, there are parts of existence, i.e. the time before we existed and after we shall exist, which are impervious to experience; yet, in spite of this limitation, we do not hesitate to affirm that flames will emit heat and that ice will chill *in saecula saeculorum*. But what, precisely, grants us the confidence that those inexperienceable realms of existence shall resemble the past and present that we do have the good fortune to experience?

In order to answer this foregoing question according to the radical empiricist stance let us first note that the predicament of induction is in fact a corollary of Hume's regularity theory (Merrill, 2010: 151). It follows that the supposition of the equivalence between the experienceable and non-experienceable realms "is not", to cite Hume (1739/1985: 184), "founded on arguments of any kind, but is deriv'd entirely from habit, by which we are determin'd to expect for the future the same train of objects, to which we have been accustom'd". In other words, the belief that the inexperienceable past and future resemble the experienceable past and present is nothing more than a *feeling* induced by the constant or frequent conjunction of two phenomena in experience. But as we have observed, the constant conjunction of phenomena does not necessarily mean a genuine causal connection between phenomena and hence it may be that in the non-experienceable past and future the phenomena we presently, i.e. within the span of our lifetimes and that of the species' existence, witness as constantly conjoined were and will not be so related in the future and may not have been so related in the past. It is precisely this observation which constitutes the problem of induction, which I consider to be a further proof of our criticism that the causal connections we postulate may in fact be "arbitrary and casual" (Hume, 1748/1993a: 27).

As opposites often illuminate each other, let us observe that if, on the contrary, we were able to discover a genuine impression corresponding to the notion of necessary connection, i.e. not

one formed by the mind due to constant conjunction, then the predicament of induction would not arise (Merrill, 2010: 151): for if one were able to empirically observe the genuine connection between two distinct phenomena, such that the one necessarily invokes the other and cannot do otherwise; and assuming, further, that such a connection is ineluctable and not subject to variation or alteration, then we would be vindicated in possessing a confidence in assuming the non-experienceable past and future to resemble the experienceable past and present. However, given, as we shall shortly see, that we cannot discover an impression corresponding to the idea of necessary connection, the only way in which we could be entirely certain that the non-experienceable past and future resemble the experienceable past and present would be, for Hume, to observe existence or reality *in toto*, i.e. if we could, *per impossible*, witness existence *sub specie aeternitatis*, i.e. if we could experience directly absolutely every particular instantiation – past, present and future – of every particular causal relation. Of course, owing to the finitude of the human condition we can never hope to meet such a colossal requirement and we are consequently left in the difficult position of having to admit that no causal relation can be universalized beyond the experienceable past and present with any degree of certainty; thus, "any thing may appear able to produce any thing" (Hume, 1748/1993a: 113).

Let no one imagine that this difficulty is the pursuit of frivolous philosophers, who having nothing better to do with their limited time have resolved to spend it reflecting upon inconsequential abstract matters in their so-called "ivory towers"; on the contrary, the problem of induction has colossal pertinence to the scientific method (Godfrey-Smith, 2003: 39). Allow me to elaborate. As all scientists are human and consequently finite, it follows that they can only observe a finite number of phenomena. Now, it is upon the limited experiments that a scientist has been fortunate to conduct that he bases his scientific conceptualisations, i.e. the scientist extends his limited experiences to the entirety of reality *in saecula saeculorum*. I reiterate, though, that if there does not exist a necessary connection between a cause and its attendant effect, then it is inadmissible for one to extend his limited observations to inexperienceable realms; for it is *conceivable* and therefore *possible* that one event may be attended by innumerable others and not solely one particular phenomenon. I shall not here attempt to offer a possible response to the predicament of induction, although one shall be tacitly implied in my discussion on necessary connection, to which I shall shortly turn in earnest; however, the principle point to be gleaned from this discussion is the fact that the lack of any observable "necessary connection" impression brings into question the causal

connection of any two distinct phenomena and precisely because we cannot be certain that one object or event is the genuine cause of another object or event, the predicament of induction arises therefrom. This is the very essence of Hume's particular instantiations predicament.

In concluding this significant section I should like to offer a succinct recapitulation of the material covered herein. It appears that although Hume (1739/1985: 223) regarded constant conjunction as the principal relation in an individual's comprehension of causal relations, closer examination reveals that the constant or regular pairing of phenomena cannot in fact disclose any actual necessary connection impression.[48] In this regard, we considered single or individual instances of causation, the constant conjunction of non-causal relations, the difficulty of being able to identify the real causes of effects, and, finally, the problem of induction. Although Hume offers a compelling psychological theory as to how the notion of causation may arise in the human brain, i.e. by way of a constant pairing of similar objects or events (Hume, 1748/1993a: 50), his theory fails to adequately capture or explicate the essence of causal relations in the external world, which are intuitively comprehended by all individuals, and even non-human animals, as Hume (1739/1985 226-229) himself admits.[49] For if Hume's theory were veracious we would necessarily be led into absurdities – such as in claiming day to cause night, or *vice versa* and rejecting all single or individual cases of causation, etc. However, every sane individual believes our Universe to have a cause for its existence and no one, not even the most foolish among us, believes the day to be the cause of the night, or *vice versa*. As a consequence, we may feel inclined to conclude that Hume's threefold relational notion of causation, although interesting and meritorious in certain respects, does not in fact adequately capture the essence of our understanding of causation. What is essential to causation seems to be the notion of necessary connection, to which we must consequently turn in earnest. However, before we do so, in order to determine the adequacy of Kant's response (a matter to which we shall return in due course) it is important

[48] Of course, there is an impression corresponding to the idea of necessary connection but this is the feeling of a necessary connection, which arises by way of custom or habit. My point is that constant conjunction does not give us the actual impression of a necessary connection or "chain" between two phenomena that we require in this instance.

[49] By this I simply mean that given that no one has ever postulated that day causes night or *vice versa* it appears that individuals have an intuitive apprehension of causal relations even if one cannot adequately explicate the nature of those relations by way of ratiocination.

to reflect at some length on the extent of Hume's scepticism concerning our causal apprehensions.

(2.8) What Is the Extent of Hume's Scepticism Concerning the Principle of Causation?

Although I fleetingly touched upon the matter in connection with Hume's predicament of induction, the extent of Hume's scepticism is an important question in so far as we need first to comprehend how far our empirical knowledge may be said to extend and the limits to which Hume's scepticism (in connection with the particular instantiations predicament) may be said to reach in order for us to evaluate the adequacy of Kant's response thereto. To that end I must note that for Hume the experienceable present and experienceable past *are* known with experiential certainty, i.e. in so far as they have already occurred and been experienced; however, Hume's predicament of induction leads to a scepticism concerning the inexperienceable past, inexperienceable present, inexperienceable future and – most significantly in connection with Kant's response – the *experienceable future*.

Now, we shall not restrict the certainty that Hume may be construed to accord to the experienceable present and experienceable past solely to the individual, for such does not seem vindicated. Thus, the whole of recorded human history may be taken to constitute the "experienceable past" (in so far as it has been accurately and truthfully recorded) and not solely the experienceable past of the individual. In that sense, knowledge may be regarded to extend quite far, i.e. centuries or even millennia, into the past; but beyond recorded history, i.e. the inexperienceable past, the inexperienceable present, the inexperienceable future and the thus far unexperienced, albeit experienceable, future, must remain for a Humean forever shrouded in mystery – and we cannot speak of those regions with any degree of certainty. Now although Hume's scepticism poses a challenge to the scientific method, i.e. in so far as we can know nothing of the inexperienceable past, the inexperienceable present, the inexperienceable future and the thus far unexperienced, albeit experienceable, future, it nonetheless has pertinence in connection with the experienceable present and the experienceable past. But science is often utilised as a means to anticipate (and therefore, control) the future. Hence the most significant point that must be gleaned from this discussion is that Hume's radical empiricism and the fact that causes and effects are separable and independent from each other means that the *experienceable, albeit thus far unexperienced, future* is no more certain than the *inexperienceable* future (or past or present). Thus, a

genuine Humean cannot know with certainty anything about his immanent future: the liquid he imbibed yesterday and which quenched his thirst might, for all he knows, shortly prove to be a deadly poison; and since he believes that knowledge requires certainty, he also cannot even *know* anything about his immanent future.

With this significant understanding in mind we can proceed in our subsequent section (on the Kantian philosophy) to determine the extent to which Kant may be taken to have offered a response to Hume. As we shall see, this turns out to be less adequate than may initially be anticipated in so far as Kant's general "solution" to Hume's predicament can only give "empirical certainty" (Kant, 1783/1985a: 28) to the experienceable, albeit thus far unexperienced, future. But let us not hastily anticipate any conclusions, for we still have the second, i.e. general, predicament of causation to elaborate upon. Let us therefore rather continue with our examination of Hume's epistemological philosophy concerning the causal principle.

(2.9) The Equivalence of Power with Necessary Connection

It will be recalled that Hume's (1739/1985: 136) discovery of constant conjunction as an essential relation or property of our understanding of causation was made in connection with Hume (1739/1985: 125) originally attempting to discover the impression from which the notion of "necessary connection" originates. It ought to be evident, given our foregoing discussion, that constant conjunction cannot be taken as an unequivocal indication of necessary connection, for there are instances of constantly conjoined objects and events (such as day and night, "dog" and "mammal") which do not admit of a causal relation. Furthermore, that which we take to be the cause and the effect are two separable and consequently separate entities, impressions or ideas; thus it is *possible* to imagine absolutely anything conjoined with anything else. However, in speaking of causal relations we mean that one distinct object necessarily implies another distinct object, such that the two are in some fundamental way inseparable. Now if this is so, it is necessary to possess some genuine bond between these two separable entities, which, as we assume, unites them in such a way as to make them appear unified and inseparable. What is required, therefore, is the *impression* of *necessary connection* itself.

Here, therefore, we must earnestly attempt to identify an impression corresponding to the notion of necessary connection; for it is evident that we do indeed possess such a notion – when, for instance, we affirm that "smoking causes cancer" we mean that there is something inherent to smoking which necessarily connects it to the appearance of cancer. Now even though Hume (1740/1993c: 134), as we shall see, maintains that the idea of necessary connection does not correspond to an impression of necessary connection, he nonetheless maintains that the idea must be grounded in some impression, for if it were not then it follows that the idea would be innate; and that, as we well know, is antithetical to Hume's (1739/1985: 54-55) ultimate intentions. Hence, our discussion will first attempt to illustrate that one cannot discover an impression of necessary connection and thereafter it will be shown that the notion of necessary connection is founded upon another, somewhat mysterious, impression.

But before we enter upon the primary discussion of this particular section, I wish first to pause here in order to observe that it may be justifiably argued that the notion of "necessary connection" is not a simple impression, but rather a *complex* or *compound* idea comprised from two heterogenous and distinct sources, viz., the notion of "necessity" derived from "relations of ideas" and "connection" from "matters of fact". Hence, it may seem a futile undertaking to attempt to discover a *single* impression that corresponds to it, given that it is a compounded idea. Furthermore, the distinction between relations of ideas and matters of fact precludes the latter from any certitude; for it is solely relations of ideas that are necessary (by virtue of the law of non-contradiction) and hence can be known with apodicticity. If I obtain knowledge of the world solely by way of experience then I am precluded from making any universal and necessary claims in relation thereto, for no matter-of-fact proposition can ever admit of contradiction. Thus, the notion that a connection might be necessary is to attempt to apply a concept pertaining to relations of ideas to matters of fact. The absurdity of this undertaking can be most conspicuously discerned by attending to the implications of such a view. To say that something is "necessarily so" is tantamount to the assertion that to state the contrary would be a contradiction. Yet, as we have seen, I can propound any proposition in relation to matters of fact without the slightest contradiction, and hence it follows that I cannot declare any matter of fact to be "necessary". To express this in more tangible terms, if one were to declare "smoking tobacco necessarily causes cancer" then the possibility of one being a smoker of tobacco and *not* developing a malignancy would be *impossible*. Yet there are numerous cases of individuals smoking and never developing cancer. An illustration that

most readily comes to my mind is that of Winston Churchill, the British wartime prime minister, who lived to the ripe old age of ninety and yet was a compulsive smoker of cigars. It is, in my estimation, in connection with these observations that Wittgenstein (6.37) rightly declares:

> A necessity for one thing to happen because another has happened does not exist. There is only *logical* necessity.

It is evident then, as this aforementioned tangible case illustrates, that causal relations cannot be thought of as expressing mathematical certainty and consequently necessity. The term "necessary connection" is in fact oxymoronic – akin to other such absurd expressions as "deafening silence" and "terribly good" – being as it is composed of concepts from two heterogenous and oppositional forms of knowledge, i.e. "connection" derivable from experience (matter of fact), while "necessary" from relations of ideas. In spite of this apparent vacuity, it is evident that everyone does assume the ontological reality of a necessary connection between causes and effects; hence the notion thereof must be grounded, on Hume's framework, in some impression, for if we cannot discover an impression corresponding to this oxymoronic idea then it may be argued that it is a definitive illustration of an innate idea.

In consequence thereof, we ought to commence our discussion by observing that Hume (1739/1985: 206-207; 210, et al; 1740/1993c: 134; 1748/1993a: 40) equates the notion of necessary connection with that of "a *power*, or *force*, or *energy*" in order, so it seems to me, to render the notion more amenable to being discovered as an impression. By this identification Hume (1739/1985: 206) means quite simply that all these notions are synonymous. But when one reflects upon these terms one finds them to be rather mysterious; for what, we may justifiably enquire, is a power or a force or energy? We cannot point to any entity and simply declare it to be the impression from which we acquire such a notion – and yet, just because we do possess such notions they must, on Hume's framework, ultimately emanate from some particular impression(s). This is a significant point, which I shall not elaborate upon here but one which I nonetheless feel compelled to acknowledge, given that I

intend to argue in due course that the notion of causality is in fact something mysterious; i.e. that it is, in a word, a *qualitas occulta*.[50]

It is also not evident, and therefore demands some acknowledgment, that the notions of power, force or energy should adequately explicate the notion of necessary connection. This statement is based upon the observation that the notions of power, force and energy do not admit of any variation; on the contrary, "power", "force" and "energy" appear to be uniform. Hence, when one declares that power/force/energy is that which is responsible for the necessary connection between a particular cause and its effect we are vindicated in wondering why the particular cause – containing, according to this view, a power/force/energy – should produce such different effects. For instance, fire is held to burn paper and melt ice; but the power/force/energy supposed to exist in the fire is also supposed to be uniform, why then should it produce such divergent effects? This is a difficulty which Hume does not address, yet it is a serious one. Thus, even though there seem to be manifold and divergent necessary connections in nature, whereas the concepts of power, force and energy seem to admit of no such variation, we shall for the sake of this discussion assume the notions to be synonymous, as Hume (1748/1993a: 40) clearly does.

In essence, the equation of these terms would appear to mean that entities contain some inscrutable and ineluctable element by which they produce of necessity certain other phenomena or alterations within themselves. Prior to an earnest examination of this equation let us first attempt to determine its provenance; for it is not at all conspicuously evident, as I observed, that the notion of "necessary connection" should correspond to a power, or force, or energy as Hume (1740/1993c: 134) claims. In connection therewith let us recall that Aristotle (1952g; k: 271; 533) referred to causality in the strict, i.e. mechanical, sense as the *causa efficiens*, i.e. *efficient* cause. Now when I declare an object to possess *efficacy* I mean that it has a *power* by which it can bring about some alteration in the world: a medicine, for instance, is *efficacious* in so far as it can accomplish that for which it was intended, viz., to

[50] Hume (1739/1985: 271-272, 273) rightly condemns the scholastic utilization of *qualitae occultae* and I should therefore not be misunderstood in my use of this particular term. By a *qualitas occulta* I simply mean something mysterious, i.e. ultimately incomprehensible to the human mind. We observe order in the Universe, that is a given fact, but *why* there should be such order is a mystery: the human brain, as we shall shortly learn, posits the notion of causation, but it is impossible to know for certain whether or not this characterization corresponds to the way in which reality is in-itself.

cure a malady. It is evident then that Aristotle introduced, or at least formalised, the notion of causality as efficacious, i.e. as possessing some sort of power by which one phenomenon can transform into another. Indeed, I observe in corroboration of my view that in the concluding remarks of section XIV ("*Of the Idea of Necessary Connexion*") of his *Treatise of Human Nature* Hume (1739/1985: 221) appears to equate his notion of *efficient cause* with that of Aristotle's idea, although he does not explicitly mention Aristotle by name.

This aforementioned notion, i.e. of causality as efficacious, can be discerned in most subsequent philosophical disquisitions which deal with the notion of causation, such as in the work of Thomas Aquinas (Mumford & Anjum, 2013: 98), Nicolas Malebranche (Merrill, 2010: 181) and the other "Occasionalists" (vide, Hume, 1748/1993a: 46-47) and John Locke (1689/2004: 220-222). It ought also to be noted that nowadays there is a revival of this Aristotelian notion of efficacious causation in the form of *dispositionalism* (Mumford & Anjum, 2013: 97). In short, the dispositionalist theory of causation maintains that causal entities contain a tendency or power which is evoked by some other entity or context (Mumford & Anjum, 2013: 97). In other words, causality is nothing more than the manifestation of these latent powers (or tendencies) inherent to particular entities. Thus, sugar has the tendency (or power) to dissolve, coal has the tendency (or power) to burn and so on and so forth. Dispositionalism may be considered a form of primitivism (Mumford & Anjum, 2013: 107), by which I mean that causality is ultimately fundamental and consequently irreducible.

However, in bygone eras philosophers were not as modest as the contemporary dispositionalists and thus Aquinas, Malebranche and Locke all sought to reduce efficacious cause or power to that which they held to be more fundamental, viz., the conception of a Deity and his attendant spirits (vide, Locke, 1689/2004: 220; Hume, 1748/1993a: 46-47). Indeed, it may in part have been the possibility of God lurking behind the notion of an efficacious cause which inspired Hume (1740/1993c: 134), the so-called "Great Infidel", to critique the notion and ultimately reject it (vide, Hume, 1739/1985: 209).[51] But I conjecture

[51] In the *Abstract* Hume (1740/1993c: 134) states: "But so little does any *power* discover itself to the senses in the operations of matter, that the *Cartesians* have made no scruple to assert, that matter is utterly deprived of energy, and that all its operations are performed merely by the energy of the supreme Being", which seems to intimate that Hume did in fact have this notion in mind when he critiqued it.

that it was most probably Locke's (1689/2004: 220-223) discussion of powers that initially alerted Hume to the serious difficulty the notion of efficacious cause presents for the radical empiricist enterprise. In order to fully comprehend this let us briefly consider the matter in more detail. In his account, Locke (1689/2004: 221) distinguishes two forms of power, viz., active and passive. Passive power, according to Locke (1689/2004: 220) is "able to receive any change", whereas active power is "able to make […] any change". It is therefore evident that passive power corresponds to the notion of effect, while active power corresponds to the notion of cause, or to be more precise, *efficient* cause. Locke (1689/2004: 221) subsequently states:

> We are abundantly furnished with the idea of *passive power*, by almost all sorts of things. In most of them we cannot avoid observing their sensible qualities, nay, their very substances to be in continual flux: and therefore with reason we look on them as liable still to the same change. Nor have we of *active power* (which is the more proper signification of the word *power*) fewer instances. Since whatever change is observed, the mind must collect a power somewhere, able to make that change, as well as a possibility in the thing itself to receive it.

Now it is interesting to note that in connection with the primary theme of our exposition Locke (1689/2004: 221) immediately notes that "[…] if we will consider it attentively, bodies, by our senses, do not afford us so clear and distinct an idea of *active power*, as we have from reflection on the operations of our minds". Let us cautiously analyse this proposition, by considering first the claim that "[external] bodies […] do not afford us so clear and distinct an idea of *active power*". Therefrom, I conclude on Hume's behalf that the notion of active power, i.e. causality, in relation to external objects is, in the final analysis, not observable and consequently mysterious. In other words, when I consider occurrences within the external world I observe one type of event occur, followed by another type of event, but I never witness the power or bond which is supposed to tie the one phenomenon to the other. In short, it appears that the attribution of an active power in objects is mysterious and intangible – something for which an impression does not correspond, even though Locke (1689/2004: 221) identifies power as a simple idea, "being one of those, that make a principal ingredient in our complex ideas of substances". It must be observed that Hume (1739/1985: 210-211) appears to concur with Locke on this significant point, viz. "that matter cannot be endow'd with any efficacious principle, because 'tis impossible to discover in it such a

principle […] we never have any [external] impression, that contains any power or efficacy. We never therefore have any idea of power [from external impressions]". Hume (1748/1993a: 42) reiterates this position in the first *Enquiry*, by explicitly and unequivocally rejecting the notion of *singular instances* of external objects revealing any notion of efficacy or power; thus does Hume (1748/1993a: 42) declare:

> In reality, there is no part of matter, that does ever, by its sensible qualities, discover any power or energy, or give us ground to imagine, that it could produce any thing, or be followed by any other object, which we could denominate its effect. Solidity, extension, motion; these qualities are all complete in themselves, and never point out any other event which may result from them. The scenes of the Universe are continually shifting, and one object follows another in an uninterrupted succession; but the power or force, which actuates the whole machine, is entirely concealed from us, and never discovers itself in any of the sensible qualities of body […] It is impossible, therefore, that the idea of power can be derived from the contemplation of bodies, in single instances of their operation; because no bodies ever discover any power, which can be the original of this idea.

However, Locke (1689/2004: 222) attempts to mitigate his assertions about the ineffable nature of external active powers by identifying them with the power identified through introspection, viz., one's volitional strivings. Here, then, we must consider the second part of the aforementioned proposition, viz., the claim that we can acquire the notion of power by way of "reflection on the operations of the mind" (Locke, 1689/2004: 221). Now this analogy might appear to have some merit in it, for Locke (1689/2004: 222) is essentially attempting to explicate that which is less known (external power) by something better known (internal power) – or so it would seem. But Hume (1748/1993a: 43-44) entirely rejects this Lockean view, for when one introspects one can never actually observe the power whereby a desire or volition induces an action, such as, for instance, the movement of a limb: we introspectively observe solely a desire (i.e. "I want to raise my hand") and subsequently observe solely an action (i.e. I raise my hand), "but the power or energy by which this is effected, like that in other natural events, is unknown and inconceivable" (Hume, 1748/1993a: 44). Thus we may

confidently conclude along with Hume, (1740/1993c: 134) that "[…] our own minds afford us no more notion of energy than matter does".[52]

Now as no connection – no *power*, or *force*, or *energy* – ineluctably connecting particular strivings with other desires and actions (Hume, 1739/1985: 211) can be discovered by way of introspection, it appears that Locke (1689/2004: 221) was incorrect to maintain that the notion of active power is acquirable or apprehended by way of a consideration of our volitional strivings; for we can as little observe any power, force, energy or necessary connection between internal objects as we can external ones. Thus, neither external nor internal observation can supply knowledge of a power or "necessary connection". It thus appears as if Hume (1740/1993c: 134) were utterly rejecting the notion of *efficient* causation as chimerical – and, by implication, the notion of necessary connection, which is the pith of our understanding of the causal principle.[53]

But in order to be just, it is also evident, as I previously observed, that we have just such an idea (of necessary connection) and hence, even if the idea does not in fact correspond to a tangible power or impression of necessary connection the notion must still be grounded therein according to Hume's (1740/1993c: 134) theory. To express this somewhat differently, we cannot claim to possess the idea of necessary connection – as we certainly do – without being able to ground it in some impression; for if we avowed the notion to be devoid of an impression we would, perhaps unwittingly, undermine Hume's entire philosophical enterprise by tacitly rendering the notion of necessary connection an innate idea. We are compelled therefore to persist in the pursuit of identifying an *impression* corresponding to the notion.

It is perhaps this aspect of Hume's philosophy which is regrettably so prone to misunderstanding and misinterpretation; for in his inability to discover an impression in *single instances* of either outward or inward phenomena corresponding to the notion of power or necessary connection it appears as if "we have no idea of connexion or power at all, and

[52] For the sake of completion, I should add that even the supposed connection between one's own thoughts, passions and emotions, i.e. "the command of the mind over itself" (Hume, 1748/1993a: 45), is not observed: I conceive one idea, emotion or passion and subsequently another, but I never observe the power of connection between my thoughts, emotions and passions (vide, Hume, 1748/1993a: 45).

[53] Indeed, this is in essence the pith of the so-called "general" predicament of causation identified by Hume primarily in the first book of the *Treatise*.

that these words are absolutely without any meaning, when employed either in philosophical reasonings, or common life" (Hume, 1748/1993a: 49). Consequently, in order to place emphasis upon it, I may be permitted to reiterate the significant point I stated previously, viz., that we do not possess a *single* impression exactly corresponding to the idea of necessary connection, but, nonetheless, we still possess an impression – however dissimilar it may be from the notion – which ultimately grounds the idea of necessary connection.

This matter is somewhat perplexing and hence it requires some further explication. Although Hume (1740/1993c: 134) appears to maintain that the notions of power, energy, force or necessary connection do not correspond to a genuine impression between a particular cause and its effect, he does seem ultimately to identify an impression corresponding to it, viz., to a *feeling* or *sentiment of belief*. In other words, we come to possess an idea of necessary connection by way of a sentiment, which it is significant to note is an *internal* impression (Hume, 1739/1985: 216). But how exactly does this occur? Hume (1739/1985: 213) notes that it is by way of *constant conjunction* that this impression, and its subsequent idea, originates. Although I have already briefly touched upon this matter elsewhere, its significance may permit me a more detailed recapitulation. When one observes a *singular* occurrence of any phenomenon one is not apt to conclude therefrom that the antecedent phenomenon was causally responsible for the appearance of the consequent phenomenon – "did we never see any but particular conjunctions of objects, entirely different from each other, we should never be able to form any such ideas [of necessary connection]" (Hume, 1739/1985: 213). In other words, necessary connection cannot be acquired from single instances of causal connection (even though such may in fact exist). But the matter is entirely different upon the constant pairing of two similar phenomena, for in this case one *feels with a conviction of belief* that these two separate phenomena must be necessarily related, such that the effect perpetually presupposes the cause and *vice versa*. Thus Hume (1739/1985: 213) declares:

> This multiplicity of resembling instances, therefore, constitutes the very essence of power or connexion, and is the source, from which the idea of it arises. In order, then, to understand the idea of power, we must consider that multiplicity […].

Now, it is not the case that the constant pairing of similar phenomena produces some new external object or impression, which ultimately corresponds to our notion of necessary

connection (Hume, 1739/1985: 214-215), for "in every other particular [the multifarious phenomena] are alike" (Hume, 1748/1993a: 52); but, nevertheless, "'tis from this resemblance, that the ideas of necessity, of power, and of efficacy, are deriv'd" (Hume, 1739/1985: 215). The question to be answered, then, is how precisely those notions arise from the constant conjunction of phenomena. Hume's (1739/1985: 215) response is somewhat cryptic, but I shall attempt to portray my interpretation thereof, which I maintain seems to me the most plausible, as perspicuously as I possibly can. It seems to me that the mind witnesses the constant pairing of similar objects with other similar objects, and the more often these similar objects occur together in succession the more inclined the mind is to assume a necessary connection between those phenomena (Hume, 1748/1993a: 49-52).

Now I think that anyone who has experienced a particular type of event on multiple occasions will concur that were he to be subsequently presented with one essential object of the phenomenon he will instinctively assume the attendant phenomenon to make an appearance. Let us take, as an illustration of this point, the pessimist and contrast him with the optimist. An individual who has often experienced great misfortune in his life is more apt to expect suffering than the individual who has lived a more fortunate and harmonious existence – yet, it is evident that the Universe is indifferent to life upon Earth and hence it does not incline existence either towards a congenial or a discordant characterisation; what causes the pessimist in this case to anticipate suffering and tragedy is his unfortunate past experiences. As I can do no better than to utilise Hume's words, I shall here quote him at length:

> Tho' the several resembling instances, which give rise to the idea of power, have no influence on each other, and can never produce any new quality *in the object*, which can be the model of that idea, yet the *observation* of this resemblance produces a new impression *in the mind*, which is its real model. For after we have observ'd the resemblance in a sufficient number of instances, we immediately feel a determination of the mind to pass from one object to its usual attendant, and to conceive it in a stronger light upon account of that relation […] The several instances of resembling conjunctions lead us into the notion of power and necessity. These instances are in themselves totally distinct from each other, and have no union but in the mind, which observes them, and collects their ideas. Necessity, then is the effect of this observation, and is nothing but an internal impression of the mind, or a determination to carry our thoughts from one object to another. (Hume, 1739/1985: 215)

And he continues later:

> The idea of necessity arises from some impression. There is no impression convey'd by our senses, which can give rise to that idea. It must, therefore, be deriv'd from some internal impression, or impression of reflection. There is no internal impression, which has any relation to the present business, but that propensity, which custom produces, to pass from an object to the idea of its usual attendant. This therefore is the essence of necessity. Upon the whole, necessity is something, that exists in the mind, not in objects; nor is it possible for us ever to form the most distant idea of it, consider'd as a quality in bodies. Either we have no idea of necessity, or necessity is nothing but that determination of the thought to pass from causes to effects and from effects to causes, according to their experience'd union. (Hume, 1739/1985: 216)

As can be gleaned from the foregoing quotations, Hume (1739/1985: 215-216) significantly maintains that the impression from which the idea of necessary connection originates "exists [solely] in the mind". Now, upon reading this one might vehemently object: "but all impressions are essentially in the mind! What then can Hume possibly mean thereby?". But Hume's point is far more subtle. What he ultimately means is that there is no external impression – i.e. an impression "out there" in the world of real, extant objects – from which the notion of necessary connection is derived; instead, the notion arises from *within* the contemplating subject. Now if we pursue the matter, we shall ultimately discover the impression to be nothing more than *a sentiment*. When I observe the constant conjunction of phenomena a *feeling* that future similar instances will correspond to the previously observed cases grows within me. Odd as it may sound, therefore, the impression which ultimately gives rise to the notion of a power, or energy, or force, or necessary connection is in nothing more than a feeling within the subject that such a power, force, energy or necessary connection exists.

But here we must observe that the identification of a simple feeling corresponding to a compounded idea (in the case of necessary connection) appears to be grossly erroneous on Hume's (1739/1985: 50) own terms – for a complex idea must necessarily correspond to multiple or complex impressions.

Moreover, and closely related to the aforementioned criticism, one may wonder how a sentiment could possibly conjure up the notion of a complex idea such as necessary connection. To express this more tangibly: I observe the pairing of similar objects and eventually develop the sentiment that when I witness the one the other will shortly follow, but how exactly does that sentiment correspond to the idea of "necessary connection"? It is not a feeling which is sufficient to explicate this phenomenon, but the actual impression of necessary connection which is required. Of course, no such impression can be identified and we are consequently left in the difficult position of possessing an idea for which no *exact* impression corresponds. Perhaps this illustrates – along with "the missing shade of blue" that we previously discussed – that Hume's radical empiricism is flawed.

Be that as it may, Hume's (1748/1993a: 50) point is that a *feeling* leads one to *believe* in the reality of necessary connection. Now we must observe that Hume (1739/1985: 671-672; 1740/1993: 131-132) maintains in both the *Treatise* and the *Abstract* that belief is not some adventitious idea, added to other ideas which thereby induces us to believe in their reality. Instead, Hume (1739/1985: 671-672; 1740/1993c: 131-132) holds that belief is merely a "peculiar feeling, or sentiment". It is difficult to explicate this notion without recourse to some tangible illustration and I consequently maintain that Hume's meaning is best comprehended by way of his (Hume: 1739/1985: 132-134) discussion on the distinction between memory and imagination. The distinction between memory and imagination lies in the vivacity of the former to the latter (Hume, 1739/1985: 133), i.e. memories tend to be more potent and livelier than imaginations. That is not to say, however, that imaginations cannot assume livelier proportions or that memories cannot attenuate with the passing of time and so become less potent and lively. Indeed, Hume (1739/1985: 133-132) himself acknowledges that such does in fact occur: thus an individual can become convinced of his delusions and hallucinations in proportion as they assume greater liveliness and strength, whereas another individual may doubt that genuine events really occurred and wonders if they were nothing but fantasies, i.e. dreams, of the imagination in proportion as they degenerate and so become less forceful and vivacious.

Now, it is just in this way that necessary connection assumes its potency, for the sentiment of belief attaches to it and thereby bestows upon it its force and vivacity. We may justifiably wonder how the sentiment of belief attaches to the notion of necessary connection and the answer thereto is rather simple, viz., *custom* or *habit* encourages the sentiment of belief

(Hume, 1748/1993a: 52, et al.). In other words, constant conjunction encourages the sentiment of belief which in turn leads one to believe that a necessary connection exists between two (or more) phenomena. The more often one witnesses the pairing of certain phenomena the more vivacious and potent the belief becomes that the two (or more) phenomena are conjoined by an "invisible, albeit necessary, connection". Thus, it is this sentiment of belief which is supposed to constitute the impression from which the notion of necessary connection is derived.

(2.10) The Ontological Status of the Principle of Causation

An important corollary of the above discussion is the fact that the notion of necessary connection – or, more broadly, causation – is rendered mind-dependent (Hume, 1739/1985: 216-218). This is an important point in so far as it constitutes the foundation of Hume's so-called "general predicament of causation". Indeed, by reducing the notion of necessary connection to a feeling or belief that one event is necessarily connected to another, as a consequence of a constant pairing or conjunction of two phenomena which resemble other similar constantly paired or conjoined phenomena, Hume (1739/1985: 217-218; 1748/1993a: 50-51) has essentially rendered the notion of causation entirely *subjective* (i.e. based upon a feeling within the perceiving individual and not an entity within the objective world) and therefore dependent upon the mind and, by implication, illusory; as Hume (1739/1985: 216, et al.) himself explicitly declares:

> Upon the whole, necessity is something, that exists in the mind, not in objects; nor is it possible for us ever to form the most distant idea of it, consider'd as a quality in bodies.

Yet it is equally obvious that macroscopic nature possesses a regularity and order,[54] from which, as we have seen, that very chimerical notion is ultimately derived. This necessarily

[54] It might be argued by readers knowledgeable of quantum mechanics that the assertion of the Universe being ordered and regular is merely an assumption and one, moreover, that modern physics has *disproved*. In order to explicate this difficult notion in as cursory and succinct a way as possible I shall merely note here that the classical physicist assertion that the Universe is ordered and regular amounts, in the final analysis, to the claim that by knowing the current velocities and positions of objects we can determine their subsequent velocities and positions. If, for instance, I avow that the red billiard ball will soon be propelled across the table that is only due

raises the question as to the *ontological status* of the causal principle; in short, we must enquire: does causality exist as a feature of the mind-independent world or is it merely the way in which the human mind idiosyncratically makes sense of the order in macroscopic nature? (cf. Hume, 1739/1985: 216)

As a place of departure it will be convenient to note that, strictly speaking, it is utterly impossible from an intellectual standpoint to prove the non-existence of entities, for the question as to whether or not something exists is not a matter of logical reasoning but of empirical observation. Hence, in order to know whether or not something exists we must have recourse to experience and turn our senses and attention thereto. This may appear simple enough, but we ought in this respect to bear in mind two important points, viz., that every creature is limited in its experiential potentials and cannot experience the Universe *in toto*.

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to my knowledge of its current position and the fact that it is stationary, while I also know the white ball's position and the fact that it is hurtling towards the red ball. But in 1926 Werner Heisenberg turned this notion on its head by introducing his "uncertainty principle", which maintains that if one knows the velocity of a particle one cannot know its position and *vice versa* (Hawking, 2016: 63). Now if it is impossible to simultaneously know the position *and* velocity of a particle it becomes impossible to predict the future trajectory thereof (Hawking, 2016: 63); in this way the entire notion of orderliness and regularity crumbles to dust. In other words, quantum mechanics intimates that the Universe "is a more higgledy-piggledy and haphazard affair than it was thought to be" (Russell, 1954: 98). It is interesting to note that Einstein – defender of the causal principle as he certainly was (Fox & Keck, 2004: 44-45) – vehemently opposed this chaotic view of nature, arguing that quantum mechanics was an incomplete theorem and that in time "hidden variables" would be discovered, which would better explicate phenomena on the quantum level (Fox & Keck, 2004: 137-138). But in spite of this very serious objection to such a fundamental notion, it may be argued that even if the microscopic world is unpredictable and chaotic, the macroscopic world is evidently ordered and regular. Of course, this latter point may be an illusion in so far as we are limited in both space and time in our ability to survey the Universe *in toto*; hence it may be that the human mind has a propensity to discern order where in fact none exists. In response thereto, I can only observe that it seems to me that were nature truly chaotic I could scarcely comprehend how anything could arise. There must, therefore, be regularity in order for objects and life to exist. On its most fundamental level nature may indeed be chaotic, just as Epicurus (2012b: 102) maintained his doctrine of "atomic swerve"; but we are then left with a serious difficulty, viz., how can order arise from disorder? Such a question seems to me no less insurmountable than the assertion of something arising from nothing. These are evidently extremely difficult, albeit significant, matters which I unfortunately cannot enter into here, suffice it to say that for our present purposes I think it is a sound assumption that both Hume (1739/1985: 219) and Kant (1783/1985a: 4) regarded the (macroscopic) world as orderly and regular, even if this notion in fact ultimately proves to be scientifically erroneous.

Firstly, every creature is limited in its experiential potentials by the organs of sense it possesses; thus are we humans limited to our five senses and are consequently incapable of experiencing the world beyond these senses. But even a cursory glance at the non-human animal world proves that, were we possessed of other senses or if the senses we possess were even slightly augmented, there are other aspects of the Universe capable of unique experiences: thus can birds and insects, for instance, detect a far greater spectrum of colours than us, and dogs and elephants are known to hear sounds which the human ear cannot detect.

Secondly, the Universe is so unfathomably immense that we may be permitted to describe it in the nonsensical way of "approaching infinity", i.e. the Universe is so vast that it is possible that every entity ever imagined *currently exists* within its limits; but owing to the great distance between us and these other entities we cannot hope to ever reach them, for even travelling at the speed of light (a current impossibility) it would still take us millions, nay, billions, perhaps even trillions of years to reach those destinations. I do not wish to become unnecessarily implicated in questions as to whether or not the biological process of aging may slow down when an entity approaches the speed of light and other similar such difficulties, which may make the potential for such expeditions possible (to say nothing of whether it will ever be possible for anything besides light to travel at such extreme speeds), the only point I wish to impart by way of these seemingly esoteric musings is that anything conceivable may in fact *currently* exist in the Universe, even if we have not as yet experienced it.

With these observations in mind let us return to the primary matter. As it will be recalled that anything is empirically possible (Hume, 1748/1993a: 16-19) it follows that any conceivable object may exist, even if it has never been experienced. For instance, even though I have never actually witnessed a flying horse or donkey, I cannot definitively state that such creatures *do not* exist, for it may be that such creatures exist on an inexperienceable realm, i.e. that they may not be experienceable according to the limits of my five senses (just as certain frequencies of light are imperceptible to the human eye), or that they may exist somewhere in the vast Universe, rendering them utterly inaccessible to human observation. Thus, I cannot definitely affirm that flying horses and donkeys do not exist; all I can confidently affirm is that as yet I have not experienced such creatures and consequently their

ontological status remains a mystery or inconclusive. Now as it is with these flying horses and donkeys, so it is with the principle of causation within Hume's system.

The question as to the ontological status of the causal principle within Hume's system must remain inconclusive or epistemologically uncertain, for even though I cannot find an actual "necessary connection" impression corresponding to the notion of connection between causes and their supposed effects (vide, Hume, 1748/1993a: 42, et al.) it may be, nonetheless, that such an entity truly does exist – we merely lack the sense to perceive this principle, just as our eyes are incapable of perceiving certain frequencies on the light spectrum or our ears cannot hear certain frequencies of sound on the audible spectrum. This must necessarily lead us to distinguish between the world as it is experienced by us and the world as it is "in-itself", i.e. the world as it is independently of our sense-perception. Firstly, then, I wish to make the tentative observation that the macroscopic Universe appears ordered or to possess a regularity, and that this is a fact entirely independent of human consciousness, for if the Universe were *not* ordered but utterly chaotic then it seems to me that the existence of anything would be utterly impossible; consequently, the regularity or order within nature is one predicament which we should instinctively attempt to explicate, i.e. *why is there order and regularity, rather than disorder and chaos?* Now, according to Hume (1739/1985: 215-220, et al.) the mind postulates a necessary connection or causal principle as the essence for this regularity or order in nature; but even though it may be that this notion corresponds to reality, i.e. that nature is so regular and ordered due to a necessary connection between distinct phenomena, it may also be the case that the regularity and order of nature are due to something *toto genere* different and consequently ineffable to the human mind. We may call this principle of order or regularity in the Universe "causation" and explicate it as a necessary connection between distinct phenomena, but there is in fact no way within Hume's system to ever definitively prove that this notion is absolutely veracious, i.e. corresponds to nature as it is in-itself, i.e. independently of our sense-perception.

In order to corroborate my interpretation, I should like to take the notion of gravity as a tangible and most compelling illustration of the point I am here attempting to make. Let an individual raise any small object into the air and subsequently release it, he will observe that the object falls to the nearest surface. Let him conduct the experiment countless times, and upon each instance he shall find that the object falls to the Earth. Now ask him to explicate this phenomenon, i.e. ask him why the object perpetually falls to the floor. I conjecture that if

he be genuinely ignorant of modern physics, he will without fail reply that there is a *force* or *power* drawing or pulling the object to Earth. In other words, gravity – to all those ignorant of modern physics – is perpetually construed as a *force*. Let no one think this is a foolish assumption, for when we observe the way in which objects are perpetually drawn to the Earth it indeed appears as if some *force* were pulling the objects down; and even the greatest thinkers, such a Newton (1685/1999: 405), Kant (1786/1985b: 65, et al.) and Schopenhauer (1819/1969a: 110, et al.), likewise construed gravity as a force. But Einstein entirely revolutionized our conception thereof (vide, Fox & Keck, 2004: 239-247). For Einstein proved in his general theory of relatively that gravity is *not* a force, it is merely an indentation in the fabric of space-time (Fox & Keck, 2004: 244). Now, I conjecture that just as gravity seems to the uninformed mind to be a force, but, upon closer inspection, turns out to be an indentation in the fabric of space-time, so too may it be that our explication of regularity and order within the Universe is not due to a necessary connection between phenomena, as it so naturally seems to us, but as something we know not what. Thus, what we take to be causation is in fact something utterly mysterious – a *qualitas occulta* – even though we construe it as a necessary connection between distinct phenomena.[55]

Although I have not yet presented on the Kantian philosophy, this discussion affords me the perfect opportunity to contrast my interpretation of Hume's philosophy with that of Kant's theory. For like Kant (1783/1985a: 100, et al.) I have in my interpretation of Hume's theory distinguished between the world as it appears to or is experienceable by us and the world as it is in-itself. However, unlike Kant (1783/1985a: 40) I have not fixed the principle of causation within the mind as an *a priori* feature thereof; instead I have carefully followed Hume's (1739/1985: 205-223) argument in the *Treatise* and attempted to present the logical conclusion of Hume's musings. That has necessarily led me to consider the matter of regularity and order within the Universe in two distinct ways: on the one hand, I have followed Hume's "positive" argument for how we acquire the concept of causation and illustrated that it pertains to the way in which the order or regularity in macroscopic nature

[55] In offering this interpretation I do not mean to clandestinely reintroduce God as responsible for the order and regularity found in macroscopic nature. If whatever is truly responsible for this order is inexperienceable, then it follows that one can never positively characterize it. Perhaps, in the course of time, this mystery of nature will disclose itself, or it may be that it is utterly inaccessible and, like the question as to what matter truly is on its most rudimentary level, must forever remain a mystery.

presents itself *to us*, i.e. as the principle of causation, wherein one phenomenon is thought to be necessarily connected to another, given that similar instances of such phenomena have been found to be constantly conjoined in past experience; while on the other hand, I have pursued Hume's (1739/1985: 219, et al.) "negative" argument against the reality of causation and come to the logical conclusion that it is impossible to know with certainty whether or not the order and regularity in macroscopic nature is due to the principle of causation or to something *toto genere* different therefrom. In short, therefore, my interpretation of Hume's epistemological theory of causation as presented in the first book of the *Treatise* is that the regularity and order in macroscopic nature appears to us to be due to the principle of causation but what truly accounts for this on Hume's terms is, in the last analysis, utterly unknowable and perhaps even incomprehensible to our finite minds.

Now if the order and regularity in nature are due to something utterly inexperienceable, such as certain frequencies of light which are undetectable by the human eye, it will be impossible to positively characterise or explicate the reason for that perceived order and regularity on empirical terms. Hypotheses may, of course, be proposed and necessary connection is one such illustration thereof, but as to the real situation we may, for all we know, forever remain ignorant – perhaps, in this case we may invoke the Latin dictum, *ignoramus et ignorabimus*. As a consequence thereof, I shall not be so naïve as to attempt such a difficult undertaking by proposing any metaphysical assertions concerning the principle which regulates the order and regularity we discover in the macroscopic Universe, for in the first place metaphysical hypotheses have no place in a radical empirical system such as Hume's; and, secondly, I am not sure this can be done with any degree of certainty or confidence (as shall become conspicuous in the next section on Kant's system), I merely intend to bring to the forefront of one's consciousness that the ultimate explanation for the order and regularity in macroscopic nature remains a mystery on Hume's account. There is something in all of this which may strike the erudite reader as Kantian in nature, and I readily concede thereto; only, unlike Kant (1783/1985a: 40), I have in my interpretation of the Humean philosophy in the first book of the *Treatise*, placed the causal principle in the noumenal sphere, if I may be permitted to express myself thus, as opposed to rendering it an *a priori* feature of the understanding. To those who may find this last assertion cryptic, I believe this matter will become perspicuous once I have presented and discussed Kant's position in earnest.

However, before I consider the Kantian position, I wish to emphasise the following significant point. It is imperative to note that although we cannot, on my interpretation of Hume's terms in the first book of the *Treatise*, definitively prove that causation is a genuine principle extant throughout the Universe, the fact remains that because the macroscopic Universe presents itself as ordered or regular we instinctively *assume* the reality thereof. Indeed, a radical scepticism, which Hume (1748/1993a: 109-110, et al.) refers to as "Pyrrhonism", cannot be genuinely maintained for too long, for if it were "all human life [would] perish" (ibid.) in so far as a creature would be rendered immobile by believing that everything is in no way connected to anything else. But in this regard Hume (1748/1993a: 110) assures us that we have no cause for concern (so to speak), for "nature is always too strong for principle", i.e. even though reason may lead us to doubt of the reality of the causal principle in a general sense, life itself compels us to assume the reality thereof and no argument, however profound and seemingly veracious, can ever induce us not to believe in the causal principle. A philosopher may write a meritorious disquisition on the illusory nature of the causal principle, but if he or a loved one is seriously ill we may safely assume that he will not hesitate to understand the aetiology of the condition in order to treat and hopefully cure it. Thus, I may here be permitted to expropriate Hume's (1739/1985: 268) words and declare that:

> Carelessness and in-attention alone can afford us any remedy [to scepticism]. For this reason I rely entirely upon them; and take it for granted, whatever the reader's opinion at this present moment, an hour hence he will be persuaded [that there is a necessary connection between constantly conjoined phenomena].

Now from this assumptive perspective it is not in the least outlandish to note that as we never observe the causal bond or connection we cannot be certain that the phenomena we observe occurring together are in fact connected. This is an assumption not actually observed in the phenomena we experience. Hence, it does not follow that because we acknowledge the fact that nature is ordered or regular, and therefore assume the reality and ubiquity of the causal principle, that we must consequently accept, without the slightest protestation, that one type of phenomenon is necessarily conjoined to another type. On the contrary, we avow that even though nature appears to us to be ordered according to the law of causation, this orderliness is in fact mysterious, and often we cannot be certain of the way in which one phenomenon is connected to another. This accords with our view, viz., that Hume's predicament concerning

causality pertains to the particular instantiations thereof and not to the principle of causation in a general sense (Allison, 1983: 216). Thus we must necessarily distinguish between two aspects of scepticism pertaining to the orderliness we find in nature, viz., (i) that the ultimate reason for this orderliness is in fact inaccessible to our finite minds, and consequently it is mysterious; but (ii) our minds (vide, Hume, 1739/1985: 314, et al.) instinctively assume this orderliness to be due to the causal principle or a necessary connection between phenomena. This latter notion is so firmly embedded in the human mind that even after what we have here discussed one will not in fact suspend his belief in causation when he engages with the world at large. For as I said, if a creature he loves becomes ill he will necessarily and fervently seek out the cause thereof, even if such ultimately be an illusion.

(2.11) The General Predicament of Causation

Here, then, we arrive at the final, albeit significant, observation to be made in connection with Hume's philosophy, viz., that the notion of causation being a mere chimera of the mind (Hume, 1739/1985: 314, et al) brings into question its ontological reality. I refer to this as the *general* predicament of causation, in contradistinction to the aforementioned particular instantiations predicament, which pertains to our certainty regarding the particular causal connections among phenomena. The general predicament, although tacitly implied in the first *Enquiry* in so far as necessary connection or causation is presented as arising from custom or habit (Hume, 1748/1993a: 50-52), is primarily to be found in the first book of the *Treatise* – and indeed, it is undoubtedly the primary predicament of causation to be found therein (vide, Hume, 1739/1985: 218, et al.).[56]

I wish to note here that this interpretation, viz., of two distinct predicaments in Hume's theorization, accords with the eminent Kantian scholar Henry E. Allison's (1983: 216) view, even though he (Allison, 1983: 216) presents the general predicament as emanating from Hume's (1739/1985: 126-127) observation that it is *possible* to imagine something coming

[56] It will be recalled that Hume (1739/1985: 130) fleetingly refers to the particular instantiations predicament in the first book of the *Treatise* when he enquires, "*Why we conclude, that such particular causes must necessarily have such particular effects, and why we form an inference from one to another?",* but he does not in fact pursue this line of thought therein. Rather, the matter is taken up in earnest in the first *Enquiry* (Hume, 1748/1993a: 50-52, et al.)

into existence without a cause thereof. To my mind Hume's (1739/1985: 126-127) argument in that particular section of the *Treatise* merely indicates that it is not impossible – as is ordinarily and erroneously assumed – to conceive of something coming into existence without a cause of its existence – not as a definitive proof that something *can actually* come into existence without a cause thereof – even though I fully acknowledge how extremely difficult it can be to conceive the possibility of this given how ingrained the notion of causality is in our psyches, i.e. that we cannot extricate it without a challenge. One might argue, as a consequence thereof, that Hume's assertion is erroneous for when I attempt to conceive an uncaused phenomenon coming into existence I am compelled to imagine it as either being the cause of itself (*causa sui*) (Hume, 1739/1985: 128) or as resulting from nothing (*ex nihilo*) (Hume, 1739/1985: 128-129), both of which presuppose the notion of causation.

However, to construe Hume in this way is to misapprehend the essence of the point he is attempting to propound; for Hume is not striving to argue that something can originate from or be caused by nothing or itself (both of which, as I mentioned, presuppose the notion of causation), but only that it is possible to conceive an entity coming into existence without any antecedent cause. As far as a potential "proof" of this notion goes, I can here only invoke the counterintuitive realm of quantum mechanics, in which particles are held to be capable of spontaneously appearing and disappearing, i.e. a particle disappearing without any preceding cause for its disappearance, and coming into being without any antecedent cause for its existence. I admit that such a notion requires a certain effort of thought, but given that I am myself capable of conceiving such an uncaused phenomenon coming into being I am compelled to conclude that such is likewise possible of other – indeed *all* – mentally competent human beings, and hence Hume is indeed correct to claim that such a notion is capable of conception by way of the imagination. I can only observe that those who attempt to refute Hume by way of *causa sui* and *ex nihilo* arguments have blatantly misunderstood him.

Now when Hume (1739/1985: 127) declares a cause and an effect to be two distinct and therefore separable entities he means that each can exist independently of the other. It follows therefrom that we may conceive a cause without its consequent effect, just as we may conceive an effect without its antecedent cause. As these matters pertain to experience one is compelled to concede that they are *possible*, even if we consider them to be highly

improbable according to our inductive reasoning. It strikes me as bizarre that Allison (1983: 216) – if I have indeed comprehended him correctly – should be led as a consequence of the foregoing notion to construe Hume in this regard as arguing for the ontological unreality of the causal principle, as though a being could actually be *proved* not to exist. Indeed, the very formulation of the proposition must strike every genuine philosopher as non-sensical. As I previously discussed, a phenomenon cannot be proved not to exist, for proof presupposes something positive, i.e. the existence or presence of something, and non-existence is by its own nature something negative, i.e. the lack or absence of something.[57] Thus, if one were foolish enough to attempt to "prove" the non-existence of something one would be perpetually implicated in an absurdity and consequently incapable of bringing such matters to a definitive resolution. Proof pertains solely to what is positive and one may consequently doubt or deny the reality or truth of something that is beyond proof; but the onus of evidence falls upon the individual who has the audacity to avow the existence of that which he has no tangible evidence for. It is precisely for this reason that philosophers – when they are not inclined to hyperbole – prefer to identify as agnostics as opposed to atheists, for the non-existence of an omnipotent, omniscient, benevolent being cannot be definitively illustrated to be chimerical; but given the way the world is, viz., a place full of much suffering and heartache, it seems that such a being as God is highly improbable. But there is no *positive proof* of God's non-existence and there *never* can be such a proof. Now as it is with God, so it is with the principle of causation.

As I think it is just to say that Hume was a great philosopher, and certainly the greatest in the Anglo-Saxon tradition, I highly doubt that he would have had the temerity and indiscretion to propound the notion that causation is *definitively* chimerical, for no positive proof of such a doctrine can ever be given, as I illustrated above. However, the *possibility* of conceiving a being beginning to exist without a cause of its existence accords with the view that causality might be a chimerical notion imposed on the world by way of habit or custom (Hume, 1748/1993a: 50).

The distinction between these two predicaments of causation, viz., the general and particular instantiation varieties, is of the utmost significance, for as we shall shortly apprehend, Kant

[57] It is the *possibility* that we may eventually discover that which at present remains absent that renders the possibility of proving something negative utterly impossible.

(1783/1985a: 6) – unjustly in my estimation – took himself to have offered an adequate solution to Hume's particular instantiations predicament by *generalising* the difficulty. In what follows I shall argue that although Kant does not offer an adequate response to Hume's particular instantiations predicament of causation, he may be taken to have supplied a seemingly adequate, albeit possibly fortuitous, response to Hume's general predicament. Let us therefore now consider the Kantian response to Hume's "predicament of causation".

(3) Part Two: Immanuel Kant

"It is the privilege of true genius, and especially of the genius who opens up a new path, to make great mistakes with impunity"[58] – *Voltaire* [*Siècle de Louis XIV,* ch. 32]

Now that I have dissected and considered each part of Hume's epistemology at great length, I can finally turn in earnest to a consideration of the Kantian philosophy, in order to determine whether or not Kant's identification of synthetic *a priori* knowledge can ultimately be considered an adequate reply to the Humean "predicament of causation". Here, however, it must be borne in mind that there are two senses of the Humean "predicament of causation", viz., the primary problem that Hume (1739/1985: 218) himself conceived to arise as a consequence of his philosophical reflections in the first book of the *Treatise*, which pertains to the principle of causation in a *general* sense, and the primary predicament presented by Hume (1748/1993a: 50) in his first *Enquiry*, which pertains to the *particular instantiations* of the causal law. What I shall illustrate is that Kant (A189/B232) offers a seemingly fortuitous a response in both editions of the *Critique of Pure Reason*, as well as in the *Prolegomena* (Kant, 1783/1985a: 4), to Hume's primary predicament as presented in the first book of the *Treatise* – i.e. to the principle of causation in a *general sense* – even though Kant (1783/1985a: 6) intended and clearly thought he had given an adequate response to the particular instantiations predicament as presented in the first *Enquiry*. However, in opposition to Kant's (1783/1985a: 6) aforementioned intention and belief, I shall argue that Kant does not in fact offer an adequate response to Hume's particular instantiations predicament and I shall also illustrate that Kant's response to Hume's general predicament is not as adequate as one may initially assume it to be, i.e. in so far as it only extends humanity's empirical certainty (Kant, 1783/1985a: 28) to the experienceable, albeit unexperienced, future (but can offer no certainty as to the inexperienceable past, present or future). As it is not the primary intention of my exposition, but significant nonetheless and consequently cannot be conscionably omitted, I shall conclude my discussion on Kant's theory with a propaedeutic of

[58] Schopenhauer (1819/1969a: 413) attached this motto (originally in French) to the title page of his appendix to his *magnum opus*, entitled: *Criticism of the Kantian Philosophy.* I have included it here in order to indicate that I intend, much like Schopenhauer in his appendix, to respectfully subject a particular aspect of the Kantian philosophy to a thorough critique or "criticism".

a criticism of Kant's seemingly fortuitous answer to Hume's general predicament of causation.

(3.1) The Conflict Between Religion and Science

In what follows I shall briefly illustrate that although Hume's predicament of causation and his scepticism which follows therefrom constitutes the pith of Kant's philosophical project, it may be justifiably argued that it was in fact to more mundane matters that Kant was ultimately attempting to offer a solution, viz., the conflict between religious belief and scientific understanding. This may in part offer to explicate why Kant's response to Hume, although successful in the former's (Kant, 1783/1985a: 6) estimation, ultimately proves problematic. Let us, therefore, first observe that Kant was essentially an individual torn between two antithetical and – some might argue – irreconcilable views, viz., the scientific method of Newton, with its strict causal necessitation of phenomena expressed in universal "laws of nature"[59] on the one hand, and the religiosity of Christianity, with its insistence upon humankind's moral freedom on the other. Kant (1788/1999g: 269) revealingly commences the concluding section of his *Critique of Practical Reason* with a famous remark that alludes to this very tension within his thought:

> Two things fill the mind with ever new and increasing admiration and reverence, the more often and more steadily one reflects on them: *the starry heavens above me and the moral law within me*.

[59] The notion that causality is indispensable to the scientific method is not as certain nowadays as it must have seemed to Kant in the eighteenth century, under the influence of mechanical Newtonian science. In his paper, *On the Notion of Cause*, Bertrand Russell (1912:1) observes:

> All philosophers, of every school, imagine that causation is one of the fundamental axioms or postulates of science, yet, oddly enough, in advanced sciences such as gravitational astronomy, the word "cause" never occurs. Dr. James Ward, in his *Naturalism and Agnosticism*, makes this a ground of complaint against physics: the business of science, he apparently thinks, should be the discovery of causes, yet physics never even seeks them. To me it seems that philosophy ought not to assume such legislative functions, and that the reason why physics has ceased to look for causes is that, in fact, there are no such things. The law of causality, I believe, like much that passes muster among philosophers, is a relic of a bygone age, surviving, like the monarchy, only because it is erroneously supposed to do no harm.

Indeed, this tension, viz., between "the moral law" and the "starry heavens", i.e. "the problem of freedom [and] determinism is", as Robert Wicks (2014: viii) correctly notes, "at the centre of Kant's [entire] philosophy". I maintain that it is precisely this tension within Kant, and not, as is sometimes, and not unjustifiably, assumed (vide, Russell, 1947: 698), his desire to respond to Hume's scepticism regarding the causal law, that ultimately led to his revolutionary philosophy and in particular to the notion of the *a priority* of causation. Indeed, Kant's (cf. A444/B472-A451/B479) system is undoubtedly ingenious in so far as it does – at least superficially – offer a rather impressive conciliation between freedom and determinism; it seems to me, though, that, because this was Kant's primary concern, his response to Hume must have occurred to him only secondarily and is as a consequence thereof bound to be problematic. This is a significant point in so far as I shall argue that Kant did not fully apprehend the profundity of Hume's (1739/1985: 218, et al.) observation regarding the causal principle as explicitly expressed in the first book of the *Treatise*, for if he did he would not, so it seems to me, have sought to salvage causality (Kant, 1783/1985a: 4-5, 40) by rendering it an *a priori* feature of the mind, but rather Kant would have regarded the regularity and order observed in macroscopic nature to emanate from the inexperienceable – that is to say *noumenal* – realm.

Now, even though it may be argued that Kant did not have Hume in mind when he conceived this predicament between science and religion, it cannot be denied that Hume's philosophical musings pose a serious challenge to both the notions of human freedom and strict determinism. In order to comprehend this, let us begin by considering Hume's (1748/1993a: 114) famous closing remark in his first *Enquiry*:

> When we run over libraries, persuaded of these principles, what havoc must we make? If we take in our hand any volume; of divinity or school metaphysics, for instance; let us ask, *Does it contain any abstract reasoning concerning quantity and number?* No. *Does it contain any experimental reasoning concerning matter of fact and existence?* No. Commit it then to the flames: For it can contain nothing but sophistry and illusion.

It is no wonder, given the above remark, that Hume's writings were placed on the Catholic *Index Librorum Prohibitorum* (Stead, 1902: 498), for in essence Hume can be construed as encouraging the burning of all religious books, which "can contain nothing but sophistry and

illusion". If we then attempt to trace the provenience of this view, it ought to be evident that Hume's so-called two-pronged "fork" is antagonist to all metaphysical – and by implication religious – notions, including the concept of "free will". For the claim that humans possess a *liberum arbitrium* is neither a "relation of ideas" nor is it a "matter of fact", i.e. the notion of human freedom is not contained within the concept of "human" and free will is not an observable fact of nature, respectively. Thus, if one follows Hume's (1748/1993a: 114) advice, the notion of freedom in the philosophical sense is an illusion and must be discarded or, more dramatically, "committed to the flames".[60] I conjecture that to Kant's mind this must have seemed an affront to morality in general.

But, as we already know, Hume's philosophy also brings into question the very notion of causality, upon which the concept of determinism is based. Thus, if causality is nothing more than a constant conjunction (Hume, 1748/1993a: 50, et al.) then it follows that we can never be certain that one event is indeed necessarily connected to another. Furthermore, if we cannot be certain of the causal connection between phenomena then the entire deterministic *Weltanschauung* collapses, i.e. the macroscopic scientific enterprise must, like the metaphysical notion of freedom, be considered illusory.[61] However, it is essential to note that Hume's observations are not as inimical to the scientific enterprise as they are to religion in general; for even though the observations made in science cannot, according to Hume's view, be extended into the distant, unobservable past, present and future or ground any claims about necessary relations between events over time, they nonetheless retain some value in describing the world as it is at a particular, observable moment; whereas because religious

[60] As a tangential, albeit significant, point, I must observe that Hume (1748/1993a: 54) was himself a compatibilist, i.e. maintaining that both freedom and determinism coexist. Realizing this, one may conclude that my entire argument hitherto is fallacious; however, it must be emphasized that Hume did not conceive of freedom as a *liberum arbitrium*, instead defining liberty as "*a power of acting or not acting, according to the determinations of the will*, that is, if we choose to remain at rest, we may; if we choose to move, we also may" (Hume, 1748/1993a: 63). In other words, freedom for Hume (1748/1993a: 63) is the ability to do what one wants to do; but this is freedom in a physical or political sense. The notion of *philosophical* freedom, that I have in mind is one in which *one can choose what one wills or wants* (Schopenhauer, 1841/2009a: 48), which is in fact impossible in a causally determined world.

[61] As mentioned, this does not accord with the contemporary conceptions of science. *Vide*, Bertrand Russell's (1912: 1) *On the Notion of Cause*.

notions and their scriptures transcend experience they are akin to childish fantasies and badly written fictional novels, respectively.

Now one extremely significant point regarding the Universe, which science renders as its object of investigation, is its *regularity*. Let us take as an illustration of this point the anatomy of organisms in general. If creatures did not exhibit a greater proportion of regularity in their anatomical structures it seems impossible to conceive of the species, much less than the individual instantiations thereof, as subsisting for any length of time. Or, to take another illustration, if the Sun on some occasions emitted heat, while on other occasions it emitted frigidity it would have been utterly impossible for life upon Earth to have arisen. In short, without a certain regularity within nature it seems impossible, at least for our limited apprehension, for anything to exist at all.

Hume (1748/1993a: 50), as we have seen, tacitly assumes this regularity in his theory of causation, but his empiricist method leads him into difficulties in terms of vindicating the genuine existence of such a regularity, i.e. it seems to emanate from the *mind* as opposed to the natural world (Hume, 1739/1985: 218). But if regularity is nothing but an unfounded, subjective, assumption of human thought, how is it possible that nature does appear to possess an *objective* regularity or orderliness? Kant (1783/1985: 4-5), so it seems to me, claims that in order for the regularity of nature to be adequately explicated it must possess both universality and necessity. This view is not, of course, impervious to criticism, for nature – orderly though it might be – does in fact often exhibit irregularities, for instance, creatures are sometimes born with deformities in their anatomical structures and the Earth has in the course of its long history been prevented from obtaining the heat of the Sun, as for instance, in the aftermath of the meteorite which exterminated the dinosaurs. It is therefore not entirely accurate to equate the regularities of nature with either universality or necessity, but that is, so it seems to me, precisely what Kant does.[62]

[62] Some scholars, such as Graciela De Pierris and Michael Friedman (2018:13-15) do not regard the notion of necessity as inherent to the general concept of causation, i.e. regularity, but as a separate principle brought to bear upon the general principle of caution by way of the so-called *Postulates of Empirical Thought*. I mention this fact because in due course I shall illustrate how De Pierris and Friedman (unsuccessfully in my estimation) attempt to utilize this notion to "prove" knowledge of particular causal instantiations on Kant's terms.

Let us therefore disregard our doubts and pursue Kant's thought to its logical conclusion. If the concepts of universality and necessity are to be applied to nature *in toto* then nature must be, in some sense like an analytical proposition, *a priori*; the primary difficulty here is that the propositions pertaining to nature are synthetic and therefore apparently *a posteriori* – two significant terms in connection with the Kantian philosophy, which I shall shortly elaborate upon. Even readers unfamiliar with the Kantian philosophy may therefore anticipate Kant's response to this predicament, viz., his identification of a third type of knowledge that is synthetic and yet *a priori* as opposed to *a posteriori*. Although I do not wish to anticipate the course of my discussion I cannot refrain from observing here that Kant's (1783/1985a: 38, 40) underlying notion in postulating the synthetic judgements *a priori* is based on the correct view that regularity is essential to nature and the existence of anything at all.

However, as I shall illustrate in due course, Kant's (1783/1985a: 53, et al.) error was in maintaining that this regularity *originates from the apperception (self-consciousness)*. If anything is to exist at all – especially according to a modern evolutionary view of life, which maintains that consciousness is a later product of the evolutionary process – then the regularity of nature must be regarded as inherent to it in-itself and not taken to originate solely within human cognition. But these notions will become conspicuous in the course of our discussion.

It is precisely for this reason that Hume's philosophical musings undermine the traditional conceptions of both freedom and determinism. But Kant, as mentioned, was in fact committed to the veracity of both views (Wicks, 2014: viii). This can be observed most conspicuously in Kant's third antinomy – which literally means "a conflict of laws" (Cohen, 2005: 41) and for our purposes may be conceived of as an apparently[63] irreconcilable contradiction (Kant, A407), one in which both sides of an argument – i.e. both the thesis *and* antithesis – appear equally valid and possible. The third antinomy, to which Kant revealingly devotes most of his attention (Lindsay, 1913: 67), pertains specifically to the notions of freedom and determinism and may be considered an attempted conciliation between those two opposing and antithetical notions (vide, Wicks, 2014: 142-143). Indeed, Kant (1783/1985a: 83) describes the third antinomy as "dynamical", by which he means that both

[63] I say "apparently" because Kant (1783/1985a: 83) maintains that his transcendental idealism offers a genuine conciliation between these two opposing views.

the thesis, i.e. that freedom exists, and the antithesis, i.e. that everything in the world is determined, are veracious (Kant, 1783/1985a: 83). Kant achieves the seemingly impossible task of reconciling the two opposing notions by way of his transcendental idealism, maintaining in essence that although determinism is *known* as a fact of the phenomenal world, freedom is capable of being *thought* of as a quality of the noumenal sphere. Now although I shall not engage with the details of this matter, viz., as to how an action can be simultaneously determined and free, this, in short, may be taken as Kant's *raison d'être* for composing the *Critique of Pure Reason*, for in my estimation, it was primarily to this matter, viz., a conciliation between freedom and determinism, among perhaps others, that Kant was incited to compose the *Critique* and not, I reiterate, primarily Hume's difficulties pertaining to the principle of causation. As a corroboration of this view I wish to note here in passing that in Kant's discussion of causation in *The Second Analogy* in the first *Critique*, there is absolutely no mention of Hume – an odd omission by any standards if one were indeed attempting to refute or respond to a particular philosopher's view. Yet in spite of this glaring omission, I shall shortly illustrate that in the *Second Analogy* Kant does offer a seemingly adequate, albeit possibly fortuitous, response to Hume's *general* predicament of causation.

Now the philosophical notion of freedom which I have elaborated upon in the foregoing discussion is necessarily a metaphysical concern, i.e. it is not a phenomenon experienceable within the experienceable world or amenable to *a priori* logic, but necessarily transcends all experience and logical argumentation. Let us recall that Hume (1748/1993a: 114) held such metaphysical notions to be devoid of any genuine value, arguing that the books wherein they have been discussed and explored ought to be "[committed] to the flames". One apparently possible solution may be to argue that the mind possesses the ability to apprehend freedom immediately, i.e. by way of an "intellectual intuition", as it were. But Kant so far as I am aware does not offer any such possibility. It must have occurred to Kant that freedom, by its very nature, was not amenable to experience and thus he had, as he (Kant, Bxxx) explicitly admits, "to deny knowledge in order to make room for faith". This is a significant point, for unlike classical metaphysicians Kant (1783/1985a: 74-89) does not attempt to positively prove the existence of God, the immortality of the soul or the freedom of the human will. On the contrary, he merely endeavours to illustrate that it is possible to conceive of them as existing beyond the realm of experienceable science (Wicks, 2014: 113-114); but it follows as a corollary therefrom that such phenomena as a God, an immortal soul and free will cannot be *known* in the way in which ordinary, i.e. experienceable, objects can be known – they can

merely be *thought* of as possible. Kant's genius was in apprehending that such an insurmountable task could be achieved by way of a destruction of "Hume's two-pronged fork", i.e. the distinction between relations of ideas on the one hand, and matters of fact on the other. For as I mentioned, free will does not belong to either category, i.e. it is neither a relation of ideas nor is it a matter of fact. Thus, as part of Kant's enterprise it was necessary for him to destroy Hume's aforementioned "fork" by identifying a knowledge which could account for both metaphysics and ensure the regularity of the experienceable world. In order to accomplish this seemingly impossible task Kant (1783/1985a: 13, 15, 20, et al.) identified a third type of knowledge, midway between relations of ideas and matters of fact. In order to explicate Kant's notion and for readers to fully comprehend Kant's meaning it is necessary to abandon the Humean terminology that we have hitherto utilised and employ the Kantian forms thereof instead. Thus, Kant (1783/1985a: 12-13) refers to matters of fact as synthetic *a posteriori* and relations of ideas as analytic *a priori*, the third, middle, form of knowledge identified solely by Kant (1783/1985a: 13, 15, 20) is synthetic *a priori* "knowledge". [64] In what follows I shall elaborate upon these notions in great detail.

(3.2) Analytic *A Priori* and Synthetic *A Posteriori* Knowledge

Kant (1783/1985: 12) maintains that analytic *a priori* judgements are "explicative", i.e. such propositions add "nothing to the content of the cognition" but merely explain what is already contained within the subject. This form of knowledge is based upon the law of non-contradiction which, it will hopefully be recalled, is defined as "the law [according to which] a proposition cannot be both true and false or that a thing cannot both have and not have a given property" (Grooten & Steenbergen, 1972: 90). In other words, analytic *a priori* propositions are known to be veracious simply by way of analysing their terms. If, for instance, I declare that "a bachelor is an unmarried man", I know without any recourse to experience that a bachelor is indeed an unmarried man because that is precisely what the term "bachelor" designates. If, on the contrary, the term "bachelor" is erroneously taken to mean an unmarried woman or a married man, then it follows that I would immediately know, i.e.

[64] Strictly speaking, knowledge of God, the immortality of the soul and free will do not, in Kant's (1783/1985a: 89-90) analysis, amount to knowledge at all. For knowledge in the true sense of the word pertains solely to experienceable phenomena.

without any recourse to experience, the proposition to be false, for it would then imply: "an unmarried woman or a married man is an unmarried man".

In contradistinction thereto, Kant (1783/1985: 12) defines synthetic *a posteriori* knowledge as "expansive", i.e. "increasing the given cognition". In other words, when I analyse a synthetic *a posteriori* proposition I cannot determine its veracity simply by way of the law of non-contradiction; in order for me to know with certainty whether or not such statements are veracious I need to consult *experience*. Thus, to return to an earlier illustration, the proposition that "my dog's coat is black and tan in colour" cannot be known prior to experience, for there is nothing inherent to the notion of "my dog" which necessarily determines the colour of her coat. The only way in which one can determine the veracity of such a statement would be to actually perceive my dog, thereby determining what colour her coat is.

(3.3) Kant's Identification of Synthetic *A Priori* Knowledge

Prior to reading Hume – whom he (Kant, 1783/1985: 5) claims "interrupted [his] dogmatic slumbers" – Kant was a rationalist (Ewing, 1924: 15), maintaining that the mind contains within itself innate ideas which reveal fundamental truths about the experienceable world. Indeed, as will be apprehended in the course of our discussion, Kant never truly abandons this rationalist position (Holzhey & Mudroch, 2010: 154); he merely transforms innate ideas into innate mechanisms.[65] But Hume alerted Kant to the significant fact that without recourse to *experience* the human mind is left to soar to absurd fictions (Holzhey & Mudroch, 2010: 274); reason must therefore be grounded *in* experience in order to remain in the province of genuine knowledge or cognition.

Now in his identification of synthetic propositions *a priori* Kant (1783/1985a: 56) essentially sought a means to surmount Hume's scepticism; the former (ibid.) did this by illustrating that

[65] Two interesting distinctions between Hume and Kant, which are undoubtedly worthy of mention, is the fact that for the former all impressions and ideas derive from experience without exception, whereas for the latter synthetic *a priori* concepts exist in the mind prior to any experience and are only "awakened", as it were, by way of the experienceable world. Secondly, whereas Hume (1748/1993a: 15) holds the propositions of mathematics to be analytic, Kant (1783/1985a: 25) maintains that they are synthetic in nature. Although Kant's claim is debatable, I shall not dispute it here.

the mind or self-consciousness[66] is not a passive entity, a mere *tabula rasa* or "white paper" (Locke, 1689/2004: 109), being imprinted upon and filled by experience, but that the mind or self-consciousness is in fact a pre-programmed "entity", containing mechanisms, i.e. synthetic concepts *a priori*, within itself that actually contribute to the construction of experienced reality. As such, synthetic propositions a *priori* are both "expansive", i.e. "increasing the given cognition" (Kant, 1783/1985: 12) and yet they are concomitantly universal and necessary (Kant, 1783/1985a: 13). Now although it may be enticing to equate the synthetic *a priori* concepts with innate ideas (Holzhey & Mudroch, 2010: 154), i.e. in so far as both are independent of experience, such an equivalency should in the final analysis not be made, for the former are constitutive of experience in general (as I shall shortly explicate in detail), whereas the latter are not. It is essentially this third type of knowledge which Kant (1783/1985a: 56) proposes as a solution to Hume's scepticism as to how one phenomenon can be known to cause another (cf. Kant, 1783/1985a: 6).

I shall, however, argue in due course that it is in fact an *inadequate* response in so far as it pertains to a general notion of the causal principle (Kant, 1783/1985a: 6) and consequently cannot elucidate how particular causes necessarily relate to particular effects, i.e. Hume's "particular instantiations" predicament remains even after one takes into account Kant's supposed *general* "solution", for "any thing may appear able to produce any thing" (Hume, 1748/1993a: 113). Be that as it may, let us now turn to the way in which Kant identifies the synthetic concepts *a priori*.

(3.4) The Metaphysical Deduction of the Pure Concepts of the Understanding

In the *Nicomachean Ethics* Aristotle (1.13) famously refers to humans as possessing within the psyche both an irrational and a rational principle. Now although Aristotle does not to my knowledge explicitly refer to the human being as an *animal rationabile*, in the course of time – and undoubtedly under the pernicious influence of religious prejudice, which seeks

[66] One might be tempted to construe my use of the terms "mind" and "self-consciousness" as tantamount to the notion of "soul", but this should not be done for the soul is by Kant's (1783/1985a: 74-79) own admission a transcendental idea and therefore something not truly known. However, it is imperative to note that for Kant the "innate mechanisms of the mind", i.e. the synthetic concepts *a priori* render experience possible and as a consequence thereof they must necessarily precede experience and not be a feature of it. Hence, it is erroneous to construe the synthetic *a priori* concepts as being a feature of the physical, i.e. phenomenal, brain.

perpetually to distinguish humanity from all other living creatures in an effort to corroborate religious scripture[67] – this "rational principle" has been considered the distinctive feature or *sine qua non* of humanity. I shall not here debate the veracity of this view, suffice it to say that it is objectionable in so far as some humans, such as infants and the mentally feeble, appear to lack it, whilst other creatures, in particular other mammals and birds, appear to exhibit at least rudimentary traces of it. For our explicative purposes, let us assume that the generality of humankind possess rationality and that it may be assumed equivalent to logic; hence to declare a creature "rational" is tantamount to declaring the creature to be "logical".[68] Kant, for all intents and purposes, follows the Aristotelian notion in regarding the human as essentially rational, i.e. an *animal rationabile* (Wicks, 2014: 19). Now this is no mere arbitrary characterisation, but a fundamental tenet upon which Kant constructs his entire architectonic – indeed, it may be justly considered the pith of Kant's (A126, et al.) answer to Hume's scepticism regarding the principle of causation; for if the human being is essentially rational and consequently logical, then the way in which an individual human interacts with the world must likewise be fundamentally logical. In other words, experience from a human perspective must be orderly and sensible. The synthetic judgements *a priori* are instances of such fundamentally embedded logical structures within the human mind, which thereby render experience meaningful and orderly.

Let us reflect at some length on the significance of this notion, which, as I stated is the bedrock upon which Kant constructs the edifice of his system. It is not, as Hume assumed, that our principles are acquired *a posteriori* and hence conform to the world, such that our thoughts are logical simply because the world is orderly; conversely, the world appears to us as comprehensible and orderly precisely because we impose *a priori* that orderliness or regularity upon it. This is Kant's (Bxvi & Bxxii) inappropriately termed "Copernican

[67] By this I mean, quite simply, that in the book of Genesis (1:26) we are told: "Then God said: 'Let Us make man in Our image, according to Our likeness […]'", notwithstanding the evident polytheistic undertones in the formulation of this sentence (i.e. the fact that God here speaks in the pluralized form), the underlying notion is that God (or the Gods) are synonymous with λόγος (i.e. reason), as is most evident in the gospel of John (1.1): "In the beginning was [λόγος], and [λόγος] was with God, and [λόγος] was God".

[68] In contradistinction thereto, and as opposites often illuminate each other, it may be beneficial to observe that irrationality must consequently be regarded as equivalent to illogicality.

revolution" (Holzhey & Mudroch, 2010: 86-87),[69] which seeks ultimately to rid science of the scepticism to which Hume's observations necessarily expose it. Indeed, Kant (A126) maintains that were the human mind truly a *tabula rasa* or "white paper" (Locke, 1689/2004: 109), as the empiricists claim, then the possibility of apprehending orderliness in nature would be utterly impossible, as he (Kant, A126) states:

> […] we ourselves bring into the appearances that order and regularity in them that we call nature, and moreover we would not be able to find it there if we, or the nature of our mind, had not originally put it there. For this unity of nature should be a necessary, i.e. *a priori* certain unity of the connection of appearances. But how should we be able to establish a synthetic unity *a priori* if subjective grounds of such a unity were not contained *a priori* among the original sources of cognition in our mind, and if these subjective conditions were not at the same time objectively valid, being the grounds of the possibility of cognizing any object in experience at all?

And again, in the *Metaphysical Foundations of Natural Science*, Kant (1786/1985b: 14n1) explicitly states:

> No system in the world can derive objective necessity otherwise than from the *a priori* principles, lying at the foundation of the possibility of thought itself, by which alone the cognition of objects whose appearance is given us, i.e., experience, is possible. And supposing that the manner as to *how* experience is thereby possible in the first place could ever be adequately explained; it would nevertheless remain indisputably certain *that* experience is possible only through those concepts and, conversely, that those concepts likewise are capable of no meaning or employment in any other reference than to objects of experience.

[69] It is interesting to note that Kant (Bxvi-Bvxvii) does not use the term "Copernican revolution" in the course of his discussion, for strictly speaking Kant may be more appropriately said to be affecting a *Ptolemaic revolution*, i.e. one in which the Earth (analogous to the human being) is placed at the centre of the solar system. However, if one attempts to read the passage with care and circumspection it is blatantly evident that Kant (Bxvi) is invoking Copernicus' *method* of inverting the position of the Earth and Sun; in other words, we ordinarily assume our notions and concepts to be acquirable *a posteriori* and consequently to conform thereto, but Kant (Bxvi-Bxvii) is proposing that we invert this conception and consider the experienceable world to be conformable to *a priori* conceptions (cf. Kant, 1783/1985a: 55-56). It is solely in this way that Hume's scepticism can, according to Kant (ibid.), be averted.

Thus, in order for the world to be orderly and comprehensible Kant (A126, et al.) maintains that the mind or self-consciousness must contain, for want of a better expression, "innate mechanisms" which necessarily structure it in such a way as to render it orderly and regular; for if it did not the macroscopic world would necessarily present itself as utterly chaotic and incomprehensible.[70] Previously, in my attempt to explicate the way in which Kant destroys Hume's two-pronged fork, I presented the notion of synthetic *a priori* concepts – these are, in fact, the so-called "innate mechanisms", by which experience is rendered orderly and intelligible. In this regard it will be beneficial to our purposes to recall that the categories (a term Kant (1783/1985a: 65) acquired from Aristotle and often utilises as a synonym for the synthetic *a priori* concepts), in spite of their *a priori* nature, are expansive and not merely explicative (Kant, 1783/1985a: 13-14); but it is imperative to bear in mind that they are "expansive" in an extremely fundamental and definitive sense, i.e. not merely as supplying further knowledge about extant entities, but as rendering experience itself possible by supplying order and regularity thereon.

Given that the synthetic *a priori* principles are of such profound and fundamental significance, it ought to come as no surprise that Kant (1786/1985b: 11-13) sought to offer an exhaustive list thereof. Thus, Kant (A77/B102-A83/B109) proceeds by basing his deduction of the pure concepts, i.e. the processes of obtaining an exhaustive list of fundamental categories or pure concepts, upon the logic books of his day (Wicks, 2014: 66). In order to render Kant's method perspicuous to readers, it is sufficient to note that a simplistic logical proposition is "*S is P*" (Wicks, 2014: 31). In essence, Kant (A80/B106, 1783/1985a: 46) identifies twelve such logical propositions (Wicks, 2014: 66), which ultimately culminates in the identification of twelve pure concepts or categories corresponding thereto.[71] Now it is evident that Kant (1783/1985a: 65, 1786/1985b: 11-13, et al.) believed his list of pure concepts or categories to be exhaustive and definitive, for in a long footnote found in the

[70] It may be, of course, that the world as it is in-itself or microscopic nature is indeed disorderly and chaotic; but as we can have no knowledge thereof we must, as Wittgenstein (1922/2014: 108) correctly declares, "remain silent".

[71] These are: (i) unity, (ii) plurality, (iii) totality, (iv) reality, (v) negation, (vi) limitation, (vii) substance, (viii) causality, (ix) reciprocity, (x) possibility, (xi) actuality and (xii) necessity.

preface to the *Metaphysical Foundations of Natural Science*, Kant (1786/1985b: 12-13n1) confidently remarks:

> The table of the categories completely contains all the pure concepts of the understanding as well as all the formal operations of the understanding in judgements, from which such pure concepts are derived and from which they also differ in nothing except that in the concept of the understanding, an object is thought as determined in regard to one or the other function of judgements.

However, in spite of Kant's certainty and confidence regarding the veracity of the number of categories identified by him, since the publication of the first *Critique* in 1781 there have been ongoing disputes regarding the definitive number of pure concepts of the understanding (Wicks, 2014: 72). This has been due, in part at least, to the advances in logic since Kant's era (Wicks, 2014: 72).

To take one striking illustration thereof, Schopenhauer (1819/1969a: 448) in establishing the fundamentals of his philosophical position jettisons eleven of the categories and retains solely that of causation. Now the fact that Schopenhauer (1819/1969a: 446) regarded causation as "the real, but also the only, form of the understanding" emphasises the significance of the category – not solely for Schopenhauer (ibid), but likewise for Kant.[72] As such, our examination of the category of causation in particular may be considered as touching upon a cornerstone of the Kantian philosophy. In consequence of the significance of the category or pure (in so far as it has not been acquired by way of experience) concept of causation, let us now turn to a detailed consideration thereof.

(3.5) Causation as a Synthetic Judgement *A Priori*

It is Kant's (1783/1985a: 40, et al.) insistence upon the so-called "pure" nature of the causal principle in which the essence of his response to Hume is to be found; for the fact that the principle of causation is an *a priori* concept inherent to all rational creatures, i.e. humans,

[72] In this regard, Schopenhauer (1819/1969a: 446) observes that in the *Transcendental Analytic* "whenever Kant wishes to give an example for the purpose of fuller discussion, he almost always takes for this purpose the category of causality", which seems to indicate the category's significance.

means that it is fundamental and applicable to all human experience. Now in order to fully apprehend the significance of this aforementioned observation, let us commence by observing that Kant (1783/1985: 4) correctly maintains that Hume regarded macroscopic nature to be orderly. Indeed, the notion of "constant conjunction" itself presupposes a regularity in so far as particular phenomena are said to be "constantly conjoined"; whereas if nature were truly chaotic it would be highly unlikely that certain phenomena would be perpetually paired together. However, Hume's *a posteriori* theory of causation *precludes the possibility of any certainty* regarding the causal relation and hence a *scepticism* pervades Hume's philosophical musings on the subject. In contradistinction to such a pervasive doubt and in concurrence with both scientific and mundane conceptions of nature, Kant (A126) sought a means of rendering the causal principle apodictic. But as it is utterly impossible to attain such certainty by way of experience (i.e. *a posteriori*) as Hume, the empiricist, had ventured to do, Kant's (1783/1985a: 56) genius was to regard the causal principle as *a priori* and moreover constitutive of human experience as such. As Kant's (A126) remarks in the first edition or "A version" of the *Transcendental Deduction* in the first *Critique* are so revealing, I may be permitted to invoke them here again:

> Thus we ourselves bring into the appearances that order and regularity […] that we call nature, and moreover we would not be able to find it there if we, or the nature of our mind, had not originally put it there […].

For Hume (1748/1993a: 16) it will be recalled that causation belongs categorically to so-called "matters of fact"; in other words, all causal propositions are, for Hume (ibid.) known exclusively *a posteriori* – and due to the fact that causal phenomena are separable, it follows that "any thing may appear able to produce any thing" (Hume, 1748/1993a: 113); there is, in short, no cogent reason as to why ice should not burn and fire should not freeze. Hence, were we to express Hume's conception of causation in Kantian terms, we would be compelled to categorize all such causal propositions as synthetic judgements *a posteriori*. But Kant's (1783/1985a: 20) identification of a third type of knowledge, viz., synthetic judgements *a priori*, permits the possibility that although the concept of a cause may not be contained within its effect and *vice versa*, causation may still be known with apodicticity.[73] This must

[73] There is in fact an extremely significant reason for Kant stressing the synthetic nature of such *a priori* propositions – even though this may be justifiably challenged. It will be recalled that Hume's (1748/1993a: 50)

immediately strike any reflective reader as odd and perhaps even non-sensical, for how can separable phenomena be known to be conjoined with certainty? Surely, as Hume (1748/1993a: 113) observes "any thing may appear able to produce any thing"?

Although I shall postpone a detailed consideration of this difficult, albeit highly pertinent, matter it is imperative to emphasise here that Kant's (1783/1985a: 6) musings on the *a priority* of causation pertain to the *general principle* thereof (Allison, 1983: 216); whereas in our current reading of Hume, as well as in certain sections of the *Treatise* (Hume, 1739/1985: 130)[74] and more explicitly in the first *Enquiry* (Hume, 1748/1993a: 41-42, et al.), Hume's gripe with causation may be construed as pertaining to the *particular instantiations of the causal law*. In order to fully apprehend the above fact regarding Kant's understanding of the causal principle let one reflect on the seemingly simple proposition "everything that happens has its cause" (Kant, A9/B13), (belief in which Kant seeks to justify). The notion of "everything that happens" does not presuppose the antecedent notion of "cause", for "everything that happens" is not, according to Kant (A9/13) at least, synonymous with "effect". Hence, it follows therefrom that the aforementioned proposition, viz., "everything that happens has its cause" (Kant, A9/B13), is synthetic (as opposed to analytic) and consequently "ampliative" in nature (Kant, A10), while also being known immediately, i.e. prior to any experience (Kant, A10). It is imperative to note that these observations pertain to causality solely in the most *general sense*, i.e. Kant does not attempt to argue that particular phenomena – such as, for instance, burnt paper or melted ice – contain within themselves concepts – such as fire or flame respectively – which can be apprehended prior to experience. Kant (A9/A13) merely illustrates that one knows *a priori* that "everything that happens must have its cause", i.e. if I were to witness an event – even if it were one I had never experienced before – such as melted ice or burnt paper, I know immediately that it must have had a

doubt in the first *Enquiry* pertains to particular instantiations of the causal principle, in which the one phenomenon in not contained in the other. Thus, even though Kant (1783/1985a: 6) by his own admission renders Hume's predicament into a "general form" he nonetheless retains the synthetic nature of these general propositions, which, it seems, is intended to correspond to their particular instantiations (which are likewise synthetic in nature).

[74] This is most evident in the following excerpt: "But as I find it will be more convenient to sink the question in the following, *Why we conclude, that such particular causes must necessarily have such particular effects, and why we form an inference from one to another?* We shall make that the subject of our future enquiry" (Hume, 1739/1985: 130).

preceding cause (whatever that may be). However, to discover the so-called *vera causa* of particular phenomena, one must necessarily have recourse to experience (cf. Kant, 1783/1985a: 69).[75] In this regard it is essential to note that Kant (1783/1985a: 62) distinguishes between "empirical laws of nature", which are particular instantiations of the causal law known solely *a posteriori*, and "pure" or "universal laws of nature", which are expressions of general rules or laws, known entirely *a priori*.

As opposites often illuminate each other, I wish to observe that in contradistinction to the abovementioned synthetic *a priori* statement, the proposition "every *effect* has its cause" *is* in fact analytic, for the concept of "effect" contains within itself the notion of "cause". I admit that one may therefore feel a justifiable sense of semantic duplicitousness in connection with Kant's (A10) claim that the general causal proposition is synthetic. For upon a closer examination of the matter it may be argued that the expression "everything that happens" is essentially synonymous with the term "effect", which contains within itself the very notion of a cause, and *vice versa*. Hence the *a priority* of the general causal proposition, viz. "everything that happens [i.e. every effect] has its cause", may be rejected as not truly unique or indicative of a third type of knowledge; on the contrary, it may be argued that the proposition is *a priori* precisely because it is analytic. Indeed, Kant's claim is efficacious only if one accepts that the proposition "everything that happens" is not synonymous with "effect". Now if one concedes to the argument that the terms are in fact interchangeable, then it follows that although it may be *logically* true that "every effect has its cause" this would not pertain to actual experience any more than the logical truth of the proposition "a unicorn is an equine animal with a horn in the centre of its head" proves the existence of such a creature. In other words, what is logically veracious may not be experientially veracious.

Be that as it may, it is imperative to note that Kant emphasises the synthetic nature of the general causal proposition in a surreptitious attempt to render it agreeable to the propositions of particular causal instantiations, which are likewise synthetic in nature. A supposition of this view is that if the general causal principle were *analytic*, i.e. "every effect has a cause" – for the concept of "cause" is contained within the concept of "effect" and *vice versa* – then it

[75] "Pure natural science cannot altogether refuse and dispense with the testimony of experience; hence with all its certainty it can never, as philosophy, rival mathematics [which rests upon its own evidence]" (Kant, 1783/1985a: 69).

would not be applicable to the particular causal instantiations, which are always *synthetic* in nature. I shall for the moment postpone my criticisms of Kant's theory of the way in which the general causal proposition can be taken to render particular causal instantiations necessary and universal and merely emphasize that for *both* Hume *and* Kant "the efficacy of [causation lies]", to utilise Hume's (1739/1985: 218) expression in the *Treatise*, "in the determination of the mind" – but for the former it is "in the mind" *a posteriori*, whereas for the latter it is "in the mind" *a priori*; this renders causal claims sceptical for Hume, but apodictic for Kant. I shall return to this extremely significant topic, which constitutes the essence of my exposition, in due course.

(3.6) The Transcendental Deduction of the Pure Concepts of the Understanding

In essence, the *a priority* of causation means, in contradistinction to the empiricist claim of the mind being a *tabula rasa* or "white paper" (Locke, 1689/2004: 109), that the human organ of ratiocination possesses "a prior structure that gives shape to the sensory experience" (Wicks, 2014: 36). As the matter is impertinent to the primary subject of the exposition, I shall not here attempt to explicate pedantically how, for Kant, the faculties of the understanding, the sensibility and the imagination work in unison and in conjunction with the transcendental unity of apperception (Wicks, 2014: 84) in order to produce intelligible experiences.[76] I shall merely note that according to Lindsay (1913: 86) all experience requires both the imagination, which may here be defined as "the power of seeing resemblances and differences in objects", and the understanding, "which by concepts gives unity and rules to the imagination". The *Transcendental Deduction* may therefore succinctly be summarised as follows: sensations (or intuitions) which one obtains from the world "out there" are initially meaningless and shapeless, according to Kant's thesis; it is solely by way of the mind first placing intuitions into a spatial and temporal framework, then apprehending the similarities

[76] It is interesting to note that Kant completely rewrote the section of the *Transcendental Deduction* for the second edition of the *Critique of Pure Reason* (Wicks, 2014: 75), wherein he mitigated the role of the imagination in the so-called "B version" (Holzhey & Mudroch, 2010: 271). It seems Kant (1786/1985b: 13-14n1) rewrote the *Transcendental Deduction* due to its "obscurity", but this does not adequately explicate why the role of the imagination should then have been mitigated. I conjecture that Kant may have minimised the role of the imagination in order to distance himself from accusations of radical, Berkeleyan idealism (cf. *Refutation of Idealism* in the *Critique of Pure Reason*, B275). Although I find this matter extremely fascinating, space will not permit me to explore it in greater depth.

and differences between them (by way of the imagination), and finally the application of certain pure concepts or categories – which Kant (1783/1985a: 65) obtains by way of Aristotelian logic – that the senseless sensations become meaningful experiences or cognitions. It is in this way that Kant is able to maintain that the causal principle itself is a feature of the human mind, presupposed by and antecedent to all experience. In other words, were the cognitive apparatus devoid of the causal principle one would not be able to have any meaningful, connected experiences at all.

A significant aspect of the *Transcendental Deduction* found extensively in the *Critique of Pure Reason* that is rather mitigated in the *Prolegomena* concerns the transcendental unity of apperception[77] and the way in which it synthesizes the manifold of intuitions (Kant, A99). As experiences must necessarily belong to some particular entity, the transcendental unity of apperception occupies a significant position in the transcendental deduction, in spite of its mitigated role in the *Prolegomena*. To express this somewhat differently, the categories or pure concepts of the understanding must cohere in solely *one* entity, just as the manifold of intuitions must be concentrated at solely one point or in solely one entity. If one individual had only a certain number of pure concepts or categories (not the full twelve) and another individual the remaining number (likewise, not the full twelve), then the process of unification or synthesis (Kant, 1783/1985a: 61) would be utterly impossible. Likewise, if the individual entity did not consistently obtain intuitions, then it follows that the application of the categories could not be affected, for as Kant (A51/B75) famously declares: "thoughts without content are empty, intuitions without concepts are blind." Thus, it stands to reason that the twelve categories must cohere in *one entity*, i.e. self-consciousness, just as the manifold of intuitions must concentrate in that particular entity for the possibility of experiences. In essence, the transcendental unity of apperception is the unifying or amalgamating principle – the so-called "synthesizer" (Kant, A99) – whereby the manifold of experience is rendered coherent and intelligible (Kant, 1783/1985a: 61).

Now it is imperative to note that this synthesis occurs *a priori* (Kant, A100), which seems to me to intimate, controversially, that the world as it is in-itself is indeed chaotic even if our

[77] Kant (1783/1985a: 61) makes a fleeting reference to the notion of apperception in the *Prolegomena*, but he certainly does not elaborate upon the notion and its role in the formations of experience as extensively as in the first *Critique*.

experiences appear to us as orderly.[78] Thus, upon this "imposition view", the order or regularity we discover in nature is put there, as it were, *by our own minds*. This is not, however, to say that the regularity or order of nature is illusory, as was the case for Hume (1739/1985: 218), for the *a priority* of the order renders it a firm feature of experience: it is not a feature of the world discovered *by* experience and consequently incapable of universalization (Kant, 1783/1985a: 55-56). But even here, it must be observed that this "regularity or order of nature" must be construed in the most general terms, i.e. although we may institutively apprehend the world as orderly this does not mean that we can know *a priori* how its particular features will manifest, i.e. we may apprehend that fire will have some effect on other objects, but we cannot know *a priori* that it shall burn paper and melt ice.

Before I conclude this section, there is one final point I wish to emphasize. Upon this view, a curious relationship emerges between the subject (as synthesizer of the manifold) and the object (as synthesized manifold). After much reflection upon the matter I have come to the conclusion that the most succinct way in which the matter can be expressed is by way of Schopenhauer's (1844/1969b: 5) so-called "subject/object antithesis", which states in essence, "no object without a subject and no subject without an object".[79] It is evident that upon Kant's theory experienceable objects are entirely dependent upon the subject; but also, and more difficult to comprehend, is the fact that the experienceable objects render the subject possible. In order to render this last point succinctly intelligible let one attempt to imagine his mind devoid of all objects; I venture to conjecture that in spite of tremendous zeal one will ultimately fail to attain this end; indeed, he shall find it utterly impossible, for the subject's mind must necessarily be filled with ideas as long as it remains conscious. It ought then to be conspicuous that as much as appearances depend on *us* for their existence, so too do we depend on *them* for our existence, as distinct from them. Thus, just as no

[78] Interestingly, this corresponds with my previous distinction between macroscopic and microscopic nature. Although experienceable macroscopic nature is orderly, it may be that on the quantum level microscopic nature is indeed chaotic.

[79] Schopenhauer (1844/1969b: 15) offers a most conspicuous characterization of this notion when he states: "[…] *the intellect and matter are correlatives*, in other words, the one exists only for the other; both stand and fall together; the one is only the other's reflex. They are in fact really one and the same thing, considered from two opposite points of view; and this one thing […] is the phenomenon of the […] thing-in-itself".

experienceable objects could exist without a perceiving subject, so too can there be no perceiving subject without perceptible objects.

(3.7) The Schematization of the Pure Concepts of the Understanding

But we must observe that there appears to be an insurmountable difficulty between the pure concepts of the understanding and the sensations or intuitions; for the former are, by their very nature, universal and necessary, while the latter appear particular and contingent (Wicks, 2014: 96). How then, we may justifiably enquire, can the pure concepts apply to sensations? The answer is to be sought in the forms of intuitions, in particular time, which mediates (Wicks, 2014: 95), as it were, between the two faculties and thereby unifies them. I cannot claim to possess the most extensive comprehension of Kant's argument in this regard, but it seems to me that as the temporal framework contains aspects of both the pure concepts, viz., necessity, and the sensations, viz., individuality or particularity (Wicks, 2014: 96), it is thus able to mediate between the two heterogenous faculties.

One may wonder as to my motivations for having explicitly referred solely to time and my omission of space in connection with this mediating role. The primary reason is that time pertains to both internal and external sense, whereas space pertains solely to external experience (Wicks, 2014: 96). In this respect, space is not as encompassing or as ubiquitous as time. Kant (A145/B185) refers to this mediating temporal role between pure concepts and sensations as *schemata*. Hence, time is said to schematize or *temporalize* the pure concepts (Wicks, 2014: 96), thereby rendering them applicable to sensations or experience. It is in this way that one apprehends the ubiquity of the causal principle throughout experienceable nature. To express this somewhat differently, the pure concept of causation is both atemporal and aspatial, i.e. it is merely the *general* proposition "everything that happens has its cause" (A9/B13), whereas the schematized principle of causation is placed into the temporal framework and is thereby supposed to be applicable to particular causal relations. However, we must observe that this does not seem obvious, for even when the general proposition that "everything that happens has its cause" is placed within time we cannot determine *a priori* the particular cause of a particular effect. This is an extremely important point, to which we must now turn in earnest.

(3.8) The Possibility of *A Priori* Particular Causal Instantiations

Now we must observe that the temporalization (i.e. schematization) of the categories or concepts ought to render them particular as opposed to general, for to say that the general category or pure concept of causation is schematized is tantamount to the claim that *one will witness a particular instantiation of the aforementioned concept in time*. For time and space are, to borrow an expression utilised by Schopenhauer (1819/1969a: 113), the *principium individuationis*, i.e. the individuating principles, by which entities are separated, individuated and concretized.[80] Thus, with the schematization of the categories it follows that one ought to be able to apprehend *particular*, *concretized* causal instantiations prior to any experience (given that the categories must still be comprehended as *a priori*, but concretized by way of the schematization as particular instantiations of the causal principle), i.e., to express this notion in far more succinct and clear terms, it ought to be possible, so it seems to me, to know *a priori*, for instance, that fire will burn paper and melt ice. Of course, Kant (1783/1985a: 110) sagaciously does not concede to this problematic point, which is conspicuously refuted by experience, but argues instead (as we shall shortly see) that a constant conjunction of experiential phenomenon is required in order to apprehend what particular causes are causally connected with particular effects (Kant, 1783/1985a: 54-55). However, my point is that if Kant were to have offered an adequate response to Hume's particular instantiations predicament of causation, as he (Kant, 1783/1985a: 6) claims to do, he would have had to illustrate how one can know *a priori* that a particular cause is causally connected to a particular effect. Such a view stands in glaring contrast to that held by most other scholars (vide, Allison, 1983: 216; Mackie, 1986: 90; De Pierris & Friedman, 2018: 13, et al.), who claim that Kant's formulation pertains solely to the *general* causal principle, which states that "everything that happens has its cause" (Kant, A9/B13), which is essentially a synthetic *a priori* judgement, and not the particular or empirical instantiation of the causal law which must be conceived of as synthetic *a posteriori* in nature given that they can be discovered solely by way of experiential exploration (Kant, 1783/1985a: 62). Indeed, Kant (1783/1985a: 110) himself corroborates the view that particular causal instantiations can only be apprehended by way of experience when he states:

[80] Schopenhauer (1819/1969a: 113) acknowledges that he acquired the term from "the old scholasticism".

> I cannot, by all my power of thinking, extract from the concept of a thing the concept of something else whose existence is necessarily connected with the former, *but I must call upon experience*.[81] And though my understanding furnishes me *a priori* (yet only in reference to possible experience) with the concept of such a connection (i.e. causation), I cannot exhibit it *a priori* in intuition, like the concepts of mathematics, and so show its possibility *a priori*.

Undoubtedly, the matter is of great pertinence in so far as Kant (1783/1985a: 6) regards his general formulation of the causal principle as a solution to Hume's particular instantiations predicament as found primarily in the first *Enquiry*.[82]

But here we discern a serious difficulty in Kant's theorization, for the universal synthetic *a priori* categories must apply empirically, i.e. to the particular instantiations of the causal law; hence it is not at all clear why the particular instantiations of the causal law should in their concretized form be known solely *a posteriori* if they ultimately emanate from one's mind, i.e. if they are *a priori*. One may perhaps, in defence of the Kantian hypothesis, be tempted to argue that the mind *unconsciously* applies the general or universal principle of causation to the particular or empirical instantiations, which one apprehends solely by way of experience. But let us explore the matter further and enquire: what does it ultimately mean to say that one can only apprehend empirical or particular instantiations of the causal principle solely by way of experience (Kant, 1783/1985a: 62)? To my mind such knowledge would necessarily entail a constant conjunction as propounded by Hume (1748/1993a: 28-29, et al.), i.e. I witness two phenomena constantly conjoined and thereby conclude – by way of "custom or habit" for Hume (1748/1993a: 28) and by way of an unconscious application of the universal or general principle of causation for Kant – that the one phenomenon must necessarily be the cause of

[81] My italicization.

[82] First Kant (1783/1985a: 6) states that "[…] I tried first whether Hume's objection could not be put into a general form, and soon found that the concept of the connection of cause and effect was by no means the only concept by which the understanding thinks the connection of things *a priori*, but rather that metaphysics consists altogether of such concepts, I sought to ascertain their number; and when I had satisfactorily succeeded in this by starting from a single principle, I proceeded to the deduction of these concepts, which I was now certain were not derived from experience, as Hume had tried, but sprang from the pure understanding". Kant (ibid.) then continues: "But as soon as I had succeeded in solving Hume's problem, not merely in a particular case, but with respect to the whole faculty of pure reason, I could proceed safely, though slowly, to determine the whole sphere of pure reason completely and from universal principles, in its boundaries as well as in its contents".

the other. Expressed thus, Kant's formulation does not appear all that dissimilar to Hume's view and indeed, in many ways it is not. Indeed, in a revealing and rather damning section of the *Prolegomena* Kant (1873/1985a: 54-55) states in connection with the way in which the general *a priori* principle of causation must be taken as applicable to the particular instantiations thereof:

> […] it is possible that in perception we may meet with a rule of relation which runs thus: that a certain appearance is *constantly followed*[83] by another (though not conversely); and this is a case for me to use the hypothetical judgement and, for instance, to say that if the Sun shines long enough upon a body it grows warm. Hence there is indeed as yet no necessity of connection, or concept of cause. But I proceed and say that if this proposition, which is merely a subjective connection of perceptions is to be a judgement of experience, it must be regarded as necessary and universally valid.

Thus it is evident that it is a *constant pairing* of two separable phenomena, such as in Kant's (ibid.) example above the pairing of the Sun and heat, which permits one to apply the general principle to particular instantiations and thereby conclude "that the Sun is by its light the cause of heat" (Kant, 1783/1985a: 55). The difficulty here, as in the case of Hume's philosophy, is that the conjunction may in fact be erroneous or one may fail to apprehend a causal connection in other cases (such as in cases of single causal instances).[84] In connection,

[83] My italicization.

[84] One may retort here that my view is in fact erroneous because for Kant the difficulty of single instances of causation is not a difficulty as it is for Hume (1748/1993a: 41). In other words, it is possible to conceive that a Kantian may avow single instances of causation, whereas a Humean – committed as they are to a constant conjunction between phenomena – will not. Yet I cannot apprehend how a Kantian would discern a genuine causal connection if not by way of a constant conjunction. In order to render this difficulty conspicuous, let one consider Kant himself: we are told that he would rise at exactly five o' clock every morning, which "may well have been related to Kant's wonderous belief that people are allotted, by fate, a certain quantity of sleep which, if prematurely used up by immoderation, will prevent them from reaching old age" (Weigelt, 2007: xviii). And again, it is related that Kant insisted that his bedroom "was never to be aired as a matter of scientific principle, the idea being that opening the shutters and letting in sunlight into the room would encourage multiplication of cockroaches" (Weigelt, 2007: xix). Now, how, I earnestly enquire, did Kant reach such causal conclusions? Are we to assume that he quite arbitrarily conceived that sleeping in excess would ensure an untimely demise or that sunlight encourages the multiplication of cockroaches? I would conjecture, although I cannot vindicate this view with substantial written evidence, that Kant must have encountered instances of individuals sleeping excessively

then, with the particular instantiations reading of Hume's (1748/1993a: 50, et al.) predicament concerning causation as expressed explicitly in *An Enquiry Concerning Human Understanding*, I am compelled to conclude that Kant does *not* offer an adequate reply to Hume, for the *a priority* of the *general* causal principle can in no way offer any certitude to our claims regarding empirical or particular instantiations of the causal law; indeed even with an *a priori* conception of the general or universal form of the principle of causation we are rendered no less uncertain in connection with empirical or particular instances thereof. In corroboration of this view I wish only to observe again that Kant (1783/1985a: 62) significantly distinguishes between "empirical laws of nature", which, as I said previously, are particular instantiations of the causal law and are known solely *a posteriori*, and "pure" or "universal laws of nature", which, as previously stated, are the expressions of *general* rules or laws, known entirely *a priori.* We shall in due course attempt to determine whether the identification of synthetic *a priori* knowledge fares any better in connection with the latter, i.e. general, reading of Hume's predicament.

Although I think it is blatantly evident to all who earnestly reflect on the matter that we do not possess *a priori* knowledge of particular causal instantiations in so far as no one would be able to know prior to any experience that, for instance, fire will burn paper and melt ice, an attempt, which I feel myself compelled to consider, appears to have been made in that regard. This curious argument entails the so-called *Postulates of Empirical Thought*, i.e. "those principles of pure understanding that specify the conditions for the empirical application of the [three] modal categories" (Holzhey & Mudroch, 2010: 214), in particular the category of necessity. In short, the argument appears to me to maintain that the application of the category of necessity to the general causal principle renders the particular instantiations which emanate therefrom apodictic, and by implication, known *a priori*. According to Graciela de Pierris and Michael Friedman (2018: 14), Kant describes

> […] a three-stage procedure, in which we begin with the formal *a priori* conditions of the *possibility* of experience in general, perceive various *actual* events and processes by means of sensation, and then assemble these events and processes together – via

who perished prematurely and instances of sunlit rooms being infested with cockroaches. Thus, even for Kant, these aforementioned causal connections – erroneous as they evidently are – must have been acquired by way of a constant conjunction.

> *necessary* connections – by means of the general conditions of the possibility experience with which we began.

Now if we closely attend to the above formulation, we shall notice that what is apprehended prior to experience are the "formal *a priori* conditions of the *possibility* of experience in general", which includes the general *a priori* pure concept of causality. This is subsequently applied to "various *actual* events and processes by means of sensation", which, as we have seen, entails a form of constant conjunction according to Kant's (1783/1985a: 54-55) conception. In this way it may be justifiably argued that the application of the general causal law relates solely to the single instance of conjunction between two presently observed albeit separate phenomena; but once the category of necessity is applied thereto, the causal relation between the two separate events or objects is rendered apodictic.[85] This has led some Kantian scholars, such as Toni Kannisto (2017: 495), to distinguish between a weak and a strong causal principle, respectively. In short, the weak causal principle pertains to the application of the general causal principle *without* the category of necessity, i.e. it merely supplies the proposition "every-event, some cause" (Kannisto, 2017: 495), whereas the strong causal principle applies the category of necessity to the general causal principle *in concreto* thus rendering it specific, i.e. "same-cause, same-effect" (Kannisto, 2017: 495).

Nonetheless, if we closely attend to the argument we shall not fail to observe that it is solely by way of recourse to *experience*, i.e. *a posteriori*, and once the pairing of two separable phenomena has been observed *in concreto* that I can apprehend two particular phenomena as necessarily causally conjoined – and this, arguably only after I have witnessed them conjoined on numerous occasions (Kant, 1783/1985a: 54-55). However, without any recourse to experience it seems impossible, even with the addition of the empirical postulate of necessity, to know *a priori* that two separate phenomena are causally conjoined – and the possibility of knowing particular causal instantiations *a priori* is precisely the point to be proven here. If one doubts my reasoning, I encourage him to imagine what will result if solely the general causal principle were combined with the empirical postulate of necessity. Would he, I enquire, somehow be able to know particular causal instantiations *a priori*? I

[85] A. C. Ewing (1924: 180-181) argues that this necessary connection exists in the noumenal sphere, but the difficulty is not thereby resolved as to how one would know *a priori* particular causal instantiations if the bond between them is utterly inexperienceable and therefore unknown. I shall return to this argument shortly.

think the answer is self-evident and it highlights, once again, the indispensable nature of experience in being able to apprehend particular causal instantiations. The difficulty here is that experience is by its very nature synthetic and *a posteriori*, hence an element of doubt must perpetually remain in all such empirical claims.

The argument must in consequence be considered unsatisfactory; however, there is another far more credible way in which the possibility of particular causal instantiations may be known *a priori* and we ought therefore to accord it some consideration. To that end, it might enter into the minds of some sagacious readers to retort that although my argument may be interesting and meritorious in certain respects it is nonetheless erroneous in so far as Kant (1786/1985b: 6) maintains that genuine science must always be based upon the apodicticity of mathematical formulations; hence, some particularities in physics such as gravity (Kant, 1783/1985a: 63; 1786/1985b: 69-70), it may be argued, ought to be known with certainty prior to experience. The observation that genuine science is mathematically based necessarily leads Kant (1786/1985b: 6) to conclude that although physics is a science in the true sense of the word, chemistry (Kant, 1786/1985b: 4, 7-8)[86] and, to an even greater extent, psychology (Kant, 1786/1985b: 8) are essentially scientifically spurious disciplines, i.e. in so far as they are not based upon mathematics, and may therefore be termed "systematic art" or "experimental doctrine" (Kant, 1786/1985b: 4, 7) and "historical systematic natural doctrine of the internal sense" (Kant, 1786/1985b: 8), respectively, rather than genuine science (Kant, 1786/1985b: 4, 7, 8).

Now in order to illustrate Kant's meaning as perspicuously as possible and to determine whether or not this can be taken as a refutation of my aforementioned argument, let us attend to solely one comparison, viz., between mighty physics on the one hand and delicate psychology on the other. It is evident that physics is a far more accurate discipline than psychology, for in the former one can accurately and almost certainly predict, not solely past occurrences, but also – and more significantly – future ones. Cosmologists can, for instance,

[86] As it may not be obvious to some readers, I may be permitted to observe here that chemistry is not an apodictic science in so far as the chemical constituents of a particular substance (such as water being composed of two hydrogen atoms and one oxygen atom) cannot be known prior to experience, just as one cannot know independently of all experience what will result by combining two chemical substances (such as the fact that gold or platinum dissolve in *aqua regia*) (cf. Kant, 1786/1985b: 70).

inform us as to when the next solar or lunar eclipses will occur, even hundreds or thousands of years into the future. However, in contradistinction thereto, psychology is a discipline with far less predictive certainty, i.e. psychologists – in spite of their often condescending superiority to the contrary – cannot accurately predict future human behaviour even when it concerns immediately immanent actions. Now if we enquire into the explication for this distinction between mighty physics and delicate psychology we shall find, according to Kant (1786/1985b: 6), that what renders the former more certain than the latter is the fact that it is ultimately based upon mathematics, whereas the latter – in spite of its preoccupation with statistical data[87] – is not. For Kant (1783/1985a: 25), unlike for Hume (1748/1993a: 15) who regarded the discipline as a "relation of ideas" and therefore analytic *a priori* in Kantian parlance, mathematics is a synthetic cognition *a priori*; thus, mathematics is, according to Kant (1783/1985a: 25), certain, universal and "ampliative", i.e. "increasing the given cognition" (Kant, 1783/1985a: 12). It is precisely in this way that Kant (1786/1985b: 6) maintains that physics can supply a high degree of certain *a priori* knowledge about the experienceable world, whereas psychology cannot.

But we must observe that although Kant (1783/1985a: 25, 40) regards both mathematics and the general principle of causation to be synthetic and *a priori* in nature, they are not in fact akin. For if Kant had regarded them as such then it seems to me that he would have explicitly attempted to equate them in both the first *Critique* and in the *Prolegomena*, which he conspicuously does not do. Thus, even if the motion of a particular celestial body is known with apodicticity this must ultimately be due to the way in which motion accords with mathematical formulations and not to any *a priori* knowledge of causal relations, i.e. the knowledge, for instance, that a solar eclipse will occur in a particular location, on a certain day and at a particular time is not due to any *a priori* knowledge of the causal relations between the Sun, the Moon and the Earth, but rather due to the *a priori* mathematical certainty of the way in which three rotating spherical objects (taken in the most non-specific sense) will interact. Indeed, it is possible that one could accurately predict a lunar or solar

[87] Indeed, the statistical data with which psychologists are often concerned are not a foundation of the discipline and, moreover, even when such mathematical procedures are employed they never generate apodicticity but mere probabilities, i.e. they often illustrate that most individuals fall in the centre of a so-called "bell graph", with a minority of individuals falling on either extreme; but a psychologist cannot determine based on the information from a bell-graph where a particular individual will most certainly fall in relation to the bell-graph, only that it is more probable that the individual will fall somewhere in the centre thereof.

eclipse without actually apprehending the causal mechanism behind the phenomena. In other words, the certainty which a cosmologist possesses regarding the next lunar or solar eclipse or even the daily oscillation of day and night cannot be explicated by way of any *a priori* causal apprehension, but must be considered a consequence of an *a priori mathematical* conception.[88] Indeed, Kant (1786/1985b: 61) offers a corroboration of this view when he declares that "mathematical contact lies at the basis of the physical but does not alone constitute it", intimating to my mind that causality must be conceived as distinct from any mathematical conception of phenomena. As a consequence thereof, I reject any intimation that Kant's view of physics being an apodictic science refutes my aforementioned argument concerning the impossibility of knowing particular causal instantiations with certainty.

As a further corroboration of the rejection of the claim that particular causal instantiations can be known *a priori* I should here like to consider the possibility of particular causal instantiations being, to borrow a term from Ewing (1924: 173), "intrinsically connected". By "intrinsic connection" is meant "a connection between particular causes and effects [such that] the former even taken apart from their causal relation to the latter are logically incoherent without the latter and *vice versa*" (Ewing, 1924: 173). In short, this amounts to the claim that if the mind were able to know particular causal relations *a priori* then the cause *must* contain within itself the notion of the effect.[89] Now, it ought to be evident that Kant would not have made such an outlandish claim, for if particular causes are intrinsically connected to their particular effects the latter are presupposed in the former and consequently must be regarded as analytic *a priori* propositions. According to the view propounded by Kant (A9-10/B13), however, all causal claims – both general and particular – are synthetic

[88] Indeed, even upon a Ptolemaic or geocentric view of the solar system one can still accurately predict – albeit with far greater detail and thus in violation of Occam's principle which declares *entia non sunt multiplicanda praeter necessitatem* – the future movements of the celestial bodies. Thus, I reiterate, the apodicticity of mathematical prediction is entirely independent of the causal principle.

[89] I cannot refrain from observing that it seems to me that Kant (1783/1985a: 44n1, 45) was so intent on preserving the synthetic nature of the general causal proposition precisely because he wished the general pure concept to apply directly to particular causal instantiations. Now the latter are obviously synthetic in nature – for instance, consider the proposition: "the Sun warms the stone". The idea of "Sun" does not inherently contain the notion of "warm" within it, one could conceive of an "icy Sun" – and hence it seems that Kant must have thought that if the general causal principle were homogeneous and therefore *toto genere* different to the particular causal instantiations (which are heterogenous) it would necessarily be precluded from applying thereto.

and hence the particular effect cannot be presupposed in the particular cause, and *vice versa*. Now as to the *a priority* of particular or empirical causal relations I think it is evident that no one can apprehend them *prior to experience*. If a creature had never before encountered fire, wood and ice there is nothing inherent to those notions which could induce him to conclude *a priori* that the one solid (wood) will burn when it comes into contact with the fire, while the other solid (ice) will melt. The only way in which the creature could learn about such relations is by way of *experience*, and hence such phenomena are "empirical laws of nature" (Kant, 1783/1985a: 62).

It therefore follows that the *a priority* of the causal principle does not pertain to its *particular* relations, i.e. one cannot know prior to experience what alteration a particular cause will produce or, conversely, what particular cause is responsible for a particular effect. To what, then, does the *a priority* to which Kant assigns causality belong? If it does not pertain to the particular instantiations of the causal principle then it must, as a consequence thereof, be applicable solely to the general form of causality. Indeed, the generality of the *a priori* causal principle can be conspicuously discerned in Kant's (A9/B13) formulation thereof as "everything that happens has its cause". Kant refers here to nothing in particular, but merely to phenomena in general, i.e. "everything that happens". This observation is of great significance, for, as I mentioned, if Kant's claim cannot illustrate the connection between particular causes and effects then Hume's scepticism in connection with the particular instantiations reading has not been adequately addressed. In short, I may know that I have a general notion that every event presupposes a cause (Kant, A9/B13), but if I cannot know *a priori* how a *particular* cause relates to a *particular* effect then it may be that that which I consider to be the cause is not in fact the *vera causa*, but a *causa occulta*.

Closely related to the above predicament is the observation made by Ewing (1924: 183/118) that if the effect is presupposed by and in the cause – i.e. if we conceive of particular causal instantiations as analytic in an attempt to prove their *a priority* – then the two must exist simultaneously and therefore "constitute one unchanging state" (ibid.). For the law of non-contradiction renders a concept identical instantaneously. Take for instance the proposition, "a bachelor is an unmarried man": the concept of "unmarried man" is instantaneously contained within the concept of "a bachelor", i.e. there is no time delay between the identification of the two (although it may, of course, take one some time to realise this fact). However, when the notion is applied to the physical world it loses all meaning, for no cause,

it may be justifiably argued, is truly simultaneous with its effect (as was illustrated previously in the discussion on simultaneous causation) and if causes and effects did occur simultaneously then the Universe itself would not exist, in so far as the Universe may be conceived as nothing more than the unfolding of the concatenation of causes (cf. Hume, 1739/1985: 123-124). Consequently, any attempt to prove the *a priority* of causality by way of the analyticity of causality is doomed to failure from the outset; as such all causal claims must necessarily be conceived of as synthetic and consequently, by implication, as *a posteriori*; in that sense causes and effects may be extremely dissimilar from each other, as is proved, in fact, by experience.

To the difficulty of one being able to accurately determine the particular instantiations of the causal law, Ewing (1924: 180-181) offers an interesting response that I should now like to discuss in detail, given that I maintain it contains an extremely serious criticism of Kant's notion of causation. In essence, Ewing (1924: 181) maintains that in order for succession to prove a causal relation a "necessary connection" is an essential postulate, as we observed in the previous argument propounded by De Pierris and Friedman (2018: 14). But it is evident that if such a necessary connection exists between causes and effects these are not knowable *a priori* and one may justifiably wonder why this is so. In response thereto, Ewing (1924: 180-181) maintains that even though one may be able to determine the particular cause of an effect by way of experience, the necessary connection between the two exists "*in the noumenal sphere*", i.e. beyond human comprehension and experience. Hence, the connection between cause and effect can never be definitively known as such, but there must perpetually remain an element of doubt, even though one may observe the regular succession of events. This in no way resolves the difficulty as to how one may know *a priori* particular causal instantiations; nonetheless the discussion is of significance in so far as it not only illustrates that the connection between what we take to be a cause and effect may be erroneous given that the connection is beyond perception, but I maintain that it brings into question the very notion of orderliness and regularity within nature, i.e. it pertains to the principle of causation considered in its most general sense. Indeed, as I discussed in the section on Hume, it may be that causation is an all-too-human and erroneous explication for the orderliness we observe within macroscopic nature. I shall return to this extremely important point in connection with my discussion on whether Kant can be considered to have adequately answered Hume's general predicament of causation.

As a final refutation of the claim that particular causal instantiations can be known *a priori* I wish to observe that although Kant (1783/1985a: 110) clearly thought that particular instantiations of the causal principle can only be known by way of experience, he (Kant, 1783/1985a: 28, et al.) nonetheless thought – just as Hume (1739/1985: 175) did – that some empirical causal relations are known with a greater degree of certainty than others.[90] Now to know something with *a posteriori* (or empirical) certainty precludes the possibility of it being known with *a priori* apodicticity and hence Kant (1783/1985a: 28, et al.) refers to the former as "empirical certainty" in an endeavour to distinguish it from what we may justifiably refer to as "*a priori*" or "apodictic certainty" (Kant, 1783/1985a: 18, 1786/1985b: 5, 9, et al.).[91] The latter admits of an *absolute* certainty, whereas the former can never attain to this level of apodicticity and can only approximate thereto, i.e. to either a greater or lesser extent, but never entirely. All empirical causal claims, although based upon the *a priori*, and therefore absolutely certain, *general* principle of causation can only ever be "empirically certain" *in concreto* or, to borrow an expression utilised by Lindsay (1913: 30), "approximately certain" in actual experience.

Now if we earnestly venture to enquire into the ultimate reasons for this element of doubt or uncertainty in particular causal instantiations, we must admit that this is ultimately due to the fact that the concept of a particular effect is not contained in the concept of a particular cause and *vice versa*, but can only be acquired by way of experience. In other words, the concept of "flame" does not contain within itself the concepts of "burn paper" or "melt ice" and hence the only way in which these separate concepts can be conjoined in thought is by way of a constant conjunction (Kant, 1783/1985a: 54-55), as I previously illustrated. Now we ought to note that a constant conjunction must occur to an individual observer at least twice (for a

[90] Chignell (2021: 111) intimates that Kant, based upon the lecture notes of some of his students, thought that some empirical propositions are apodictically certain or that there is apodictic "certainty of experiential cognition" (a term I shall shorty explicate). However, as I shall illustrate this notion is extremely problematic on Kant's own terms; hence I reject it as an utter impossibility.

[91] There is – in theory at least – one way in which the *a posteriori* may be known with apodictic certainty, viz., if, *per impossible*, one could regard or behold the Universe *in toto* and thereby consider it in a single instant in its entirety, i.e. *sub specie aeternitatis*. If that were possible (which it is not), one would then be able to determine which causal relations (if any) are definitive. However, the finiteness of our existences in both time and space prohibits and restricts our ability to fathom the Universe in such a way, hence we are incapable of attainting to apodictic certainty in empirical matters.

single instance of constant conjunction would be insufficient) and potentially extend to an incalculable figure, i.e. every subsequent conjunction adds nothing substantial to the initial connection but only augments the certainty thereof. As in Hume's (1739/1985: 175) philosophy, the frequency with which certain phenomena, i.e. objects or events, are constantly conjoined in our experience intimates the degree to which we may be empirically certain of their causal connection, i.e. the oftener phenomena are conjoined together, the more empirically certain we may be of their causal connection; but as the connection may, for all we know, be an arbitrary and therefore erroneous one, we can never attain in empirical relations to the apodicticity of a mathematical equation and hence such certainty is referred to by Kant (1783/1985a: 28, et al.) as "empirical certainty", in order to distinguish it from the "apodictic certainty" of analytic *a priori* propositions. As an illustration of this notion let one consider the proposition "all men must die" (cf. Hume, 1739/1985: 175), I venture to conjecture that all sensible individuals will concur in the certainty of such a claim, yet it is not impossible that a man might be born immortal. Although highly unlikely given what experience has hitherto revealed, it is not impossible to conceive of such an occurrence and hence the proposition cannot attain to the level of apodictic certainty but must rather be considered as possessing a high degree of empirical certainty. The most significant point to be gleaned from this discussion is the fact that empirical certainty is acquired solely by way of *experience* (*a posteriori*), i.e. by way of a constant pairing or conjunction of phenomena (Kant, 1783/1985a: 54-55) and cannot be known prior to experience. Thus I confidently reiterate that Kant's (1783/1985a: 6) general "solution" of Hume's (1748/1993a: 50) particular instantiations predicament is in fact inadequate in so far as it cannot illustrate with absolute *a priori* certainty that particular phenomena are definitively causally connected; as such, "any thing may appear able to produce any thing", even if highly unlikely based on our experiences, and thus Hume's (particular instantiations) predicament remains. Let us therefore turn instead to a consideration of Hume's so-called "general predicament of causation", in order to determine if the Kantian response fairs any better in relation thereto.

(3.9) Kant's Response to Hume's General Predicament of Causation

In numerous locations in the *Prolegomena* Kant (1783/1985a: 4, 22, et al.) makes it clear that he is concerned with Hume's predicament in a *general* sense, even though he is attempting, by his (Kant, 1783/1985a: 6) own admission, to offer a response to Hume's particular instantiations predicament. Now, historically this has been somewhat perplexing in so far as

the standard view – if I may be permitted to use such an expression – is that as Kant was not conversant in English he was only able to read Hume's first *Enquiry*[92] as opposed to the *Treatise*, given that the former had been translated into German in 1755 (Watkins, 2005: 364; Holzhey & Mudroch, 2010: 142) whereas the latter had not (Ewing, 1924: 15; Allison, 1983: 216).[93] Yet this view is not without contestation, for it has been claimed that Kant did in fact read sections of the *Treatise*, as Ewing (1924: 15) notes:

> [..] it was the passages quoted from [Hume's *Treatise of Human Nature*] in Beattie's *Essay on the Nature and Immutability of Truth*, first translated into German in 1772, that first gave Kant an adequate idea of the wider implications of Hume's thought on causality, and that prior to this time Kant was only acquainted with the *Essays* [i.e. *Enquiries*] of Hume.[94]

[92] *An Enquiry Concerning Human Understanding*, originally published in English as *Philosophical Essays Concerning Human Understanding* in 1748. Of particular pertinence to our discussion is the fact that the *Treatise* emphasizes the *subjective* nature of the causal principle, i.e. as nothing more than an assumption based on constant conjunction; whereas the first *Enquiry* merely implies this, whilst emphasizing the difficulty of ascertaining the connection between a particular cause and its consequent effect.

[93] The famous Hume scholar, Ernest C. Mossner (1985: 26) mentions in his introduction to the Penguin Books edition of Hume's *magnum opus* that "there was a German translation [of *A Treatise of Human Nature*] published in 1790-92". As the second English edition of Hume's great work only appeared after Hume's death in 1817 (ibid.) it seems likely that the German translation of 1790-1792 was the first appearance of the book in that language. Now, it possible that Kant read this translation, but it must be noted that if he did it was subsequent to his publications of both editions (i.e. 1781 and 1787) of the *Critique* (Watkins, 2005: 364n1), the *Prolegomena* (1783) and the *Metaphysical Foundations of Natural Science* (1786); hence, if Kant was indeed responding in his philosophy to Hume's predicament as formulated within the *Treatise*, then it could not have been by way of this first German translation that Kant was alerted to the matter, but by some other means such as Beattie's *Essay on the Nature and Immutability of Truth* from 1772, which contained excerpts from the *Treatise* (Ewing, 1924: 15).

[94] Although I have not as yet found a secondary source which deals with the matter, it would be interesting and revealing if scholars documented which excerpts from Hume's *Treatise* Beattie included in his *Essay on the Nature and Immutability of Truth*. For if it is found that many of Hume's passages which deal with the mind-dependent nature of the causal principle were included by Beattie in his work (which Kant supposedly read), then there may be a serious case to be made that Kant was indeed aware of and thus potentially responding to Hume's so-called "general" predicament of causation. As I have not hitherto been able to study Beattie's *Essay* and have not found this matter discussed in detail in the secondary literature on Kant, I am in consequence compelled to remain agnostic on the matter.

Now this matter is no mere academic trifle, frivolously engaged in by serious philosophers for the sake of filling pages with content. On the contrary, the matter is of profound significance, as Hume may be taken, as I illustrated in the course of my discussion on his philosophical theories, to have proposed two different predicaments concerning the principle of causation in his two famous works. The eminent Kantian scholar, Henry E. Allison (1983: 216) observes, accurately but rather cryptically it must be said, that in the first book of the *Treatise* Hume's predicament concerns the "general predicament of causation", whereas in the first *Enquiry*, the predicament pertains "to the quite different principle that similar causes produced similar effects" (which I have termed the "particular instantiations" reading).

Given that Kant's (1783/1985a: 4, 6, 22, et al.) response to Hume's predicament of causation pertains to the general formulation (Mackie, 1986: 92; De Pierris & Friedman, 2018: 8), it would appear that Kant must have been familiar with at least some of the content in the first book of Hume's *Treatise* (Watkins, 2005: 364). In my estimation, it is highly unlikely, although not absolutely impossible, that Kant was able to extrapolate the general predicament from the first *Enquiry* given that it is implicitly present therein, i.e. in so far as Hume (1748/1993a: 50) considers the causal relation between two distinct phenomena to be a consequence of nothing more than constant conjunction, custom and habit and consequently chimerical, but this predicament is not made explicit in the first *Enquiry* and only becomes conspicuous in light of the first book of the *Treatise*. For instance, when I had only read Hume's first *Enquiry* I was entirely convinced that the predicament to which Hume's philosophy is directed is the difficulty of knowing with certainty if one phenomenon is indeed the cause, i.e. the *vera causa*, of another. Thus, when I subsequently read Kant's *Prolegomena* I was entirely convinced that Kant did *not* adequately respond to Hume's predicament, for Kant (1783/1985a: 6) by his own admission gives a *general* solution to Hume's particular instantiations predicament, which – as I have illustrated – is incapable of indicating how a particular cause can be known with apodictic certainty to be causally connected to a particular effect. It was only subsequent to my reading of the first book of Hume's *Treatise* that I realised that there is indeed a "general" predicament of causation propounded by Hume, i.e. in so far as Hume (1739/1985: 218, 262, et al.) maintains that the principle of causation "exists in the mind" and may therefore be chimerical.

But when one carefully reads the *Prolegomena* I maintain that it becomes evident that Kant (1783/1985a: 4, 22, et al.) was indeed responding to Hume's "particular instantiations"

reading of the predicament of causation as expressed in the first *Enquiry*, not solely because Kant makes no explicit reference to the two different versions of Hume's predicament, but because he explicitly states that he (Kant, 1783/1985a: 6) attempted to resolve Hume's predicament by way of "generalizing" it himself:

> *So I tried first whether Hume's objection could not be put into a general form*,[95] and soon found that the concept of the connection of cause and effect was by no means the only concept by which the understanding thinks the connection of things *a priori*, but rather that metaphysics consists altogether of such concepts.

Later, Kant (1873/1985a: 22) intimates once again that Hume's predicament pertains to particular instantiations, i.e. the question as to how we can know one phenomenon to be necessarily conjoined to another, when he states:

> [Hume] did not conceive the question in its entire universality as is done here and as must be done, if the answer is to be decisive for all metaphysics. For how is it possible, says that acute man, that when a concept is given me I can go beyond it and connect with it another which is not contained in it, in such a manner as if the latter *necessarily* belonged to the former? Nothing but experience can furnish us with such connections (thus he concluded from the difficulty which he took to be an impossibility), and all that vaunted necessity or, what is the same thing, all cognition

[95] My italicization. As some may object to my construal of this passage, I wish to note that whilst I acknowledge that the excerpt does intimate an extension from the general causal principle to the other (eleven) categories, it seems to me to do this only secondarily. Kant's (1783/1985a: 6) remark that he "tired first whether Hume's objection could not be put into a general form" clearly suggests to me that he had in mind the particular instantiations predicament of causation as propounded most conspicuously by Hume (1748/1993a: 50) in the first *Enquiry*. This accords with the historical view that Kant had only read Hume's first *Enquiry* and not the *Treatise* (Ewing, 1924: 15; Allison, 1983: 216; Watkins, 2005: 364; Holzhey & Mudroch, 2010: 142). Furthermore, this interpretation seems to me to be corroborated by Robert P. Wolff (1960: 123) who – after citing the aforementioned passage from Kant (1783/1985a: 6) – remarks: "[t]he implication is clear that Kant did not know of the arguments of Part iv of Book I [of the *Treatise*]". However, even if my interpretation of this particular excerpt ultimately proves erroneous – i.e. even if Kant fully intended a response to Hume's (1739/1985: 216) *general* predicament of causation – there remains merit in my observations that Kant is unable to offer an adequate solution to Hume's (1748/1993a: 50) particular instantiations predicament (even if Kant was not attempting to do so).

> assumed to be *a priori* is nothing but a long habit of accepting something as true, and hence of mistaking subjective necessity for objective.

Thus, although Kant may, as I shall argue, be taken to offer a response to Hume's *general* predicament of causation as explicitly expressed in the first book of the *Treatise* (Allison, 1983: 216), he does so *seemingly fortuitously*, i.e. unintentionally, for Kant's (1783/1985a: 6, 22) general solution seems intended as a reply to Hume's particular instantiations predicament. Let us now turn to a significant section of the first *Critique*, viz., the *Second Analogy*, wherein Kant (A189/B232) attempts to prove the specific applicability of the *general* (pure) principle of causation in particular (as opposed to any of the other eleven categories) to all phenomenal experiences.

(3.10) The Second Analogy as an Instance of the General Causal Principle

A crucial element in Kant's (A191/B236) argument for the *a priority* of the general causal principle in the *Second Analogy* is the significant distinction between the objective and the subjective (Kant, 1783/1985a: 41-44), which Kant (1783/1985a: 43) terms revealingly in the *Prolegomena* the "judgement of experience" and the "judgement of perception", respectively. Every judgement of experience – i.e. an objective judgement – is initially a judgement of perception – i.e. a subjective judgement – by which Kant (1783/1985a: 41-42) means, quite simply, that perception is at first entirely subjective in so far as it does not apply a rule or law to given intuitions, which would render it objective. In other words, any arbitrary association between two heterogenous phenomena is a judgement of perception; it is solely when these heterogenous phenomena are subsumed under pure concepts of the understanding that they are transformed into judgements of experience (Kant, 1783/1985a: 44).

Now when heterogenous intuitions are subsumed under the regulatory influence of the pure concepts of the understanding they become objective in so far as other individuals, as well as oneself at different times, would concur in the judgement (Kant, 1783/1985a: 43). Thus, objectivity is for Kant (1783/1985a: 43) synonymous with universal validity. For instance, the fact that all sane and rational individuals concur in the proposition that "the Sun's shining upon the stone renders it hot" intimates that the statement is objective, i.e. in so far as it is universally valid. On the other hand, a judgement will remain subjective when it is not subsumed under the pure concepts of the understanding, i.e. the judgement will be entirely

idiosyncratic, not solely to others but likewise to oneself at a particular time and place. For instance, if after ingesting a narcotic one touches a stone on a cold winter's night and insists that it is warm, such a judgement would not find concurrence among other, sober individuals (and this applies equally to the intoxicated individual himself, for if he were sober he too would not concur in the judgement). Hence the proposition in this case is not universally valid and hence it is subjective. This is a crucial point to bear in mind, for Kant (1783/1985a: 55, et al.) does not mean by "objective" an entity as it is in-itself and by "subjective" the appearance in the mind of an observer of the entity as it is in-itself. The phenomenal world as subject to the regulatory influence of the pure concepts of the understanding *is* the objective – or "real" – world. It is in this sense that Kant (1783/1985a: 32-33, 35-37) took extreme umbrage at any intimations of his system being akin to Cartesian or Berkeleyan forms of idealism, i.e. Kant clearly does not regard the phenomenal world to be an *illusion* (vide, Kant's "*Refutation of Idealism"*, B275).

Now in the *Second Analogy* of the *Critique of Pure Reason* Kant (A190/B236, A192/B238) utilises two examples to illustrate the distinction between "judgements of perceptions", i.e. subjectivity and "judgements of experience", i.e. objectivity, viz., that of a house and that of a ship travelling downstream, respectively. In connection with the former, the way in which an individual apprehends the house is entirely arbitrary: he may commence at its foundation and then consider its roof, or he may apprehend it in the reverse order (Kant, A190/B236, B238). This example is meant to underscore the *arbitrariness* of subjective apprehension. Whereas in the latter case, viz., that of the ship moving downstream, however, the sequence in which one apprehends the movement of the object is not arbitrary but appears to be entirely determined according to a rule or law, not by the empirical subject (Kant, B238). Thus, objective apprehension – unlike its subjective counterpart – is determined or necessary; and it is in this way that Kant attempts to prove the reality of the principle of causality as a synthetic *a priori* concept of the understanding, i.e. of one's consciousness – or to be more precise, the transcendental unity of appreciation.[96] In other words, the schematized concept of

[96] The question as to how precisely the so-called "transcendental unity of appreciation" is to be conceived within Kant's system is an extremely difficult, albeit significant, one. Kant's (1783/1985a: 57, et al.) claim that one can only possess knowledge of appearances and not of the way the world is in-itself, precludes the possibility of the transcendental unity of apperception from being identified with the physical brain – for if it were, the brain would then have to be conceived as a noumenon, an absurd notion in so far as the brain is an organ capable of being empirically studied. It would thus seem that the transcendental unity of appreciation

causality when applied to the haphazard kaleidoscope of intuitions renders them orderly and regular. It is in this way that the *a priori* principle of causation is a necessary prerequisite for the possibility of having any experience at all, for without it (i.e. the principle of causation) our apprehensions would be disconnected and we would as a consequence consider all phenomena as separate and disunited; thus experience itself would not exist in the sense that one ordinarily means and we would be aware of only an unintelligible chaos.

The aforementioned illustration of the ship has, of course, been subjected to numerous criticisms, and we must now consider these at some length. For instance, Schopenhauer (1813/2015a: 84) – in spite of his concurrence with Kant regarding the *a priority* of the causal principle (Schopenhauer, 1813/2015a: 38) – offers an extremely cogent attack on the analogy in which he claims that it is not in fact an illustration of subjectivity, but rather of objectivity. Schopenhauer (1813/2015a: 84) observes that the consideration of a house is not, as Kant claims, dissimilar to the contemplation of a ship travelling downstream. For in both instances there is a movement of objects: in the case of the latter it is a ship, whereas in the former example *my eyes* move in a particular manner in order to behold the house in its entirety, i.e. one's eyes must move in a certain manner in relation to the house in order to behold it. But it is not evident that the movement of one's eyes will follow a standard or specific trajectory (as is the case with the movement of the ship) in each instance one's eyes consider the house.

In an attempt to salvage Kant's argument from this aforementioned criticism propounded by Schopenhauer, A. C. Ewing (1924: 87) maintains (correctly, in my estimation) that the movement of one's eye is haphazard in so far as the movement of the eyes is subjective and consequently it does not presuppose an objective sequence in the same way as a ship moving downstream does. In other words, the ship must necessarily travel along the same path, i.e. From A to B to C, etc., whereas my eyes, on the contrary, follow no such necessary order: on one occasion my eyes might first focus on the foundation of the house, whereas on another occasion they might commence with the roof. In contradistinction thereto the ship's

must be something non-physical, i.e. in essence the *spiritual soul*. But this characterization is equally problematic, for the soul transcends all possibly of apprehension and therefore cannot be known as an object of experience (Kant, 1783/1985a: 74-79). I mention this solely for interest's sake, for it seems to me that the notion of the transcendental unity of apperception is an essential and yet mysterious entity within Kant's architectonic.

movement from point A in the river to point B is not haphazard: in each instance the ship travels from point A to point B it must necessarily follow the same course – it cannot travel on one occasion from point A to point B, but on another occasion and in the same position from point A to point C or D. Thus, even though there is a similarity between both analogies (in so far as some object can be said to be moving in both), upon closer consideration, they are found to be dissimilar: for in the one instance the movement is entirely determined by way of a rule or law, whereas in the other it is entirely arbitrary or haphazard.

Closely related to the aforementioned criticism is another propounded by Schopenhauer (1813/2015a: 85) concerning Kant's identification of sequence with causation. For although Kant (1783/1985a: 43, et al.) does not emphasise the pertinence of sequence in the formation of judgements of experience in the *Prolegomena*, it is conspicuously evident from the foregoing discussion that one of the primary features which betokens the objectivity of judgements of experience in contradistinction to the subjectivity of judgements of perception is the fixed sequence of the former to the latter. In other words, whereas judgements of perception are haphazard, judgements of experience are sequentially fixed or determined in a set order. But Schopenhauer (1813/2015a: 85) correctly points out that sequence – even when it is entirely objective – does not necessarily mean that one event or object is the cause of another, as he (Schopenhauer, 1813/2015a: 85) states:

> If I step out of the door of my house and then a tile falls from the roof, striking me, there is no causal connection between the tile's falling and my exiting, but nonetheless there is a succession – that my exiting precedes the tile's falling is objectively determined in my apprehension and not subjectively determined through my choice, which otherwise would likely have reversed the succession. In just the same way, the succession of sounds in music is objectively determined and is not determined subjectively by me, the listener. But who would say that the sounds of the music follow one another according to the law of cause and effect? Indeed, even the succession of day and night is without doubt recognised by us as objective, but certainly they are not understood to be cause and effect of one another, and even before Copernicus, the world was in error concerning their common cause, and the correct knowledge of their succession had not thereby been affected.

Thus it would appear that although all causal relations are always objectively ordered sequentially not all such sequences are indicative of a causal relation.[97] But then one may justifiably wonder if we may at times mistake a non-causal sequence for a causal one or, conversely, erroneously consider a causal relation for a mere non-causal sequence, in which case it would seem that causality does *not* in fact emanate from the mind but rather has an objective existence in the universe – or, to use Kantian terminology, causation, i.e. order/regularity, is a feature of the noumenal realm.[98] Indeed, this particular objection, viz., that sequence is not tantamount to causal order or regularity, ultimately intimates that the argument for the *a priority* of the causal principle as propounded by Kant in the *Second Analogy* is in the final analysis untenable, for therein Kant (A192/B238) explicitly equates sequence with causal regularity. That not all sequences are indicative of a causal relation intimates that there is evidently something more to our understanding of causal relations than mere sequence, a significant point that Kant's analysis unfortunately fails to capture and elaborate upon.

In spite of these criticisms the only way in which the difficulty of nature's orderliness can be resolved according to Kant (B233-234) is to paradoxically postulate that the objective order or regularity within nature emanates from the subjective observer (Kant, 1783/1985a: 61-62), i.e. from a *rule* taken in the most *general* sense:

> The concept, however, that carries a necessity of synthetic unity with it can only be a pure concept of understanding, which does not lie in the perception, and that is here the concept of the relation of cause and effect, the former of which determines the latter in time, as its consequence, and not as something that could merely precede in the imagination (or even be perceived at all). Therefore it is only because we subject the sequence of the appearances and thus all alteration to the law of causality that experience itself, i.e., empirical cognition of them, is possible, consequently they

[97] Another example of a non-causal sequence is offered by Ewing (1924: 74) in his discussion of "exclusion" in a number sequence – i.e., if each number is only permitted to appear once, then its appearance on one occasion precludes it from appearing on another occasion. Now these aforementioned numbers, although arranged sequentially, cannot be thought to cause each other. In other words, the number sequence: 2, 5, 20, 100, 55, 3, 38, 64 is not arranged in this particular sequence due to the fact that 2 causes 5, 20 causes 200 and so on.

[98] In due course I shall offer a list of other potential criticisms of Kant's theory for the *a priority* of the general causal principle.

> themselves, as objects of experience, are possible only in accordance with this law (Kant, B233-234).

Thus it is that the regularity or order within nature is explicated by Kant (1783/1985a: 40) by way of the innate mechanisms of the mind, i.e. synthetic cognition *a priori* – and in particular the principle of causality. But such an observation necessarily leads to the view – difficult to fathom for philosophical novices – that there are two distinct "worlds", i.e. the world as it appears to us as observers and the world as it is in-itself, i.e. independently of all preconception or observation (Kant, 1783/1985a: 40).[99] It is precisely in this way that Kant (1783/1985a: 6) "resolves" Hume's difficulty.[100] In short, by illustrating the *a priority* and as a consequence thereof, the certainty and necessity, of the causal principle for the phenomenal world Kant (1783/1985a: 55-56) takes himself, unjustifiably in my estimation, to have resolved Hume's difficulty, whereas because Hume had attempted to discover the nature of causality *a posteriori* he was necessarily confronted with an insurmountable difficulty and consequently sought refuge in scepticism. In other words, Kant (1783/1985a: 38) intimates that if causation is regarded as a feature of the world as it is in-itself then it is impossible to resolve Hume's predicament,

> for if experience is to teach us laws to which the existence of things [are] subject, these laws, if they refer to things in themselves, would have to refer to them of necessity even outside our experience. But experience teaches us what exists and how it exists, but never that it must necessarily exist so and not otherwise. Experience therefore can never teach us the nature of things in themselves.

Causation is then, for both great thinkers, "something that exists [solely] in the mind, not in objects" (Hume, 1739/1985: 216-218), but here it is incumbent upon us to be as cautious as a

[99] If one were to follow Kant to his logical conclusion, one would be compelled to maintain that the world as it is-itself is not subject to the principle of causation and is therefore unchangeable.

[100] It ought to be evident that in so far as Kant (1783/1985a: 5-6, et al.) is considered as replying to Hume's (1748/1993a: 50-52) predicament in the first *Enquiry*, i.e. to the predicament which pertains to the difficulty of the connection between particular instantiations of the causal law, Kant has clearly *not* responded to Hume. But given that Kant (1783/1985a: 6) "generalizes" the difficulty in his attempt to resolve the "particular instantiations" predicament he can be considered to have offered a seemingly fortuitous and unintentional response to Hume's (1739/1985: 218) "general" predicament of the causal principle as most explicitly expressed in the first book of the *Treatise*.

physician handling a pathogen in making the foregoing assertion, for when we declare that "causality is in the mind for both Hume and Kant" we do not mean this proposition in exactly the same sense for both philosophers. On the contrary, there is a significant distinction. For Hume, causality is "in the mind" by way of *empirical observation*, i.e. the observance of frequent conjunctions – which ultimately amounts, in the last analysis, to a "psychological" (Ayer, 2000: 9) theory of causation – one which we may justifiably term *a posteriori*; whereas for Kant (1783/1985a: 6, 40, et al.) "causality is in the mind" as an *a priori* category, i.e. as a rule or law which precedes experience, renders it possible in the first place, is not acquired by way of experience and therefore admits of no exception for us.

Now as can be evinced by way of the subheadings of both the A (first edition) and B (second edition) versions of the first *Critique* it is conspicuously evident that Kant (A189/B232) is referring to the *general* rule or law of causation:

> [*In the first edition:*]
> Everything that happens (begins to be) presupposes something which it follows in accordance with a rule.
>
> [*In the second edition:*]
> All alterations occur in accordance with the law of the connection of cause and effect.

This confirms Kant's (1783/1985a: 6) assertion in the *Prolegomena* that he "tried first whether Hume's [particular instantiations] objection [of causal relation] could not be put in *a general form* […]",[101] even though Hume's name is curiously absent from Kant's discussion in the *Second Analogy*.[102] It is therefore of little consequence whether one traces Kant's argument for the *a priority* of the principle of causation in either edition of the first *Critique*

[101] My italicization.

[102] As I mentioned in the introductory section to this part of the exposition, it may be argued that in writing the *Second Analogy* Kant wished to reconcile freedom and determinism – not, initially at least, to offer a response to Hume's particular instantiations predicament. This interpretation is corroborated by the fact that Hume's name does not appear at all in the course of Kant's discussion in the *Second Analogy*. I can only conjecture that subsequent to composing the first *Critique* Kant became aware (perhaps after reading the German translation of Hume's first *Enquiry*) that his general formulation of the causal principle could be used to offer some response to Hume's particular instantiations predicament.

or the *Prolegomena*, for in all those works Kant is conspicuously committed to proving the *a priority* of the principle of causation in a *general* sense and he is not explicitly endeavouring to illustrate the *a priori* apprehension of particular causal instantiations (vide, Kant, 1783/1985a: 44).[103]

Kant may thus be taken to have replied to Hume's general predicament of causation as more conspicuously stated by Hume in the first book of his *Treatise*, but as Kant (1783/1985a: 6) explicitly states in the *Prolegomena* that he rendered Hume's particular instantiations predicament in "a general form" and as it is uncertain whether or not Kant actually read parts of the first book of the *Treatise* (Ewing, 1924: 15) – and, moreover, whether or not these excerpts would have alerted Kant to Hume's "general predicament" – we are compelled to conclude that it seems as though Kant has *fortuitously* responded to Hume's general predicament. But I must remind readers that the matter is rendered extremely complex in so far as Kant (1783/1985a: 6) considered himself to have offered a cogent response to Hume's "particular instantiations" predicament of causation, as can be evinced by the fact that Kant (1783/1985a: 6) explicitly states he "tried first whether Hume's objection could not be put into a general form", intimating that the predicament to which he (i.e. Kant) was exclusively concerned was the "particular instantiations" predicament, i.e. of being able to know with certainty that one phenomenon is indeed causally related to another. This, of course, accords with the historical fact that Kant is considered to have read solely Hume's first *Enquiry* (Watkins, 2005: 364) and not the *Treatise*, wherein the general predicament is most conspicuously expressed. It seems to me that Kant considered the *a priori* application of the general principle of causation to necessarily render particular causal relations apodictic and this is precisely why Kant was so intent on preserving the synthetic nature of the general form of the causal law, i.e. precisely because he thought that solely in this way could it be applicable to the particular instantiations thereof, which are likewise perpetually synthetic in nature. The difficulty with this is that experience indefatigably illustrates that humans often err in their causal pronouncements and hence it appears that for all Kant's ingenuity, Hume's predicament regarding the particular instantiations of causal relations remains, for "any thing may appear able to produce any thing" (Hume, 1748/1993a: 113).

[103] I assert this with the following caveat: that Kant thought the general principle applicable to particular instantiations of the causal principle; however, I previously illustrated the difficulty in this notion and I consequently regard it as an untenable position.

But even if Kant is taken to have responded to Hume's (1739/1985: 218) general predicament of causation we ought still to enquire into its *adequacy*, by which I mean the *extent* to which it resolves Hume's predicament; for it will be recalled that I previously indicated that for Hume the experienceable present and the experienceable past are known, but that the inexperienceable past, the inexperienceable present, the inexperienceable future and, most significantly, the experienceable, albeit thus far unexperienced, future cannot be known with any degree of certainty according to Hume's *a posteriori modus operandi*. Now are we to merely assume that by way of Kant's (1783/1985a: 40) identification of causation as a synthetic concept *a priori* the inexperienceable past, the inexperienceable present and the inexperienceable future are rendered empirically certain in so far as their causal relations are concerned? Such a conclusion, I conjecture, would be far too hasty, especially when one takes into consideration the fact that the pure concepts of the understanding are applicable solely to intuitions, i.e. the experienceable world (Kant, 1783/1985a: 69). Let as turn in consequence thereof to an earnest consideration of the extent to which Kant's solution can be taken to resolve Hume's predicament.

(3.11) What is the Extent to which Kant's General Solution Solves Hume's General Predicament?

As it is imperative in comprehending the extent to which Kant's general solution resolves Hume's general predicament I may be permitted to commence this discussion by reiterating the significant fact that for Kant (1783/1985a: 69, et al.) the synthetic *a priori* concepts are applicable solely to the phenomenal or experienceable world. Hence, it follows therefrom that Kant's (1783/1985a: 40, et al.) postulation of causation as a synthetic concept *a priori* extends only so far as experience extends, that beyond the point of what is experienceable Kant's argument can in no way be taken to shed any light whatsoever on causal relations. Thus, if we subsequently turn to a consideration of the scope of Hume's general predicament, we are obliged to observe that for Hume – no less than for Kant – the distant, non-experienceable, past, the inaccessible, non-experienceable present and the distant, non-experienceable, future are all likewise shrouded in mystery, i.e. are ineffable to the human mind or self-consciousness and consequently nothing positive may be meaningfully said about them. In this sense, Kant's general solution can in no way be taken as *totally* resolving

Hume's difficulty, i.e. the *a priority* of the causal principle cannot extend into the non-experienceable noumenal realm and in those ineffable regions Hume's scepticism persists.

However, for Hume solely the experienceable past (which may include the past of all humanity in so far as it has been accurately recorded) as well as the experienceable present may be known with certainty; the future – including the immanent, experienceable, future – must for Hume (cf. 1748/1993a: 113, et al.) remain unknown and nothing positive may be said of it with any degree of certainty, i.e. one cannot, from a Humean perspective, assert that even the immanent future will definitively accord with experience as we have hitherto encountered it.

In contradistinction thereto, the *a priority* of the causal principle ensures for Kant (1783/1985a: 40, et al.) that we possess empirical certainty of the *experienceable* future, even though we have not as yet experienced it. This, in fact, constitutes the extent of Kant's general solution to Hume's general predicament, i.e. Kant's response can only give us knowledge or empirical certainty of the *experienceable future* – whereas, for Hume, the *a posteriority* of our knowledge of the causal principle precludes any such knowledge of the immanent, experienceable, future; but Kant's solution cannot in fact tell us anything about the distant, non-experienceable, past, the inaccessible, non-experienceable present or the distant, non-experienceable, future and in this respect it is akin to the Humean philosophy. For instance, from a Kantian perspective nothing meaningful can in fact be said about the genesis of our Universe, i.e. the so-called "Big Bang", for such an "event" is by its very nature entirely inexperienceable.

Thus, if the general Kantian response is to be taken as a solution to the general Humean problem of causation it can only be said to do so in an extremely circumscribed, i.e. limited or inadequate, way by rendering the immanent, experienceable, future empirically certain, but not the distant, inexperienceable, past, the inaccessible, inexperienceable present or the distant, inexperienceable future. To express this in other terms, we may say that Kant's general solution resolves Hume's "problem of induction" up to a certain point, i.e. in so far as humanity may be able to experience it, but of the future, the present and the past that humanity cannot experience, i.e. the presently remote and inaccessible regions of the Universe, or the Universe prior to the appearance of humanity and after the extinction of the

human race, nothing meaningful can in fact be said[104] – hence, Hume's problem of induction still persists. To give a tangible illustration of this point, we may be empirically certain for Kant that Socrates, for instance, experienced the world in much the same manner as we currently do, just as humans five thousand years from now will likewise experience the world in much the same way as we currently do. Hume would concede to the former (in so far as it has been legitimately recorded), but not to the latter. However, for both Hume and Kant nothing may be meaningfully said of the Universe at present which is inaccessible to human observation or the Universe before or after humanity's appearance therein; and hence the Kantian response cannot be considered a definitive solution to Hume's general predicament of causation.

Indeed, I cannot refrain from observing that even though Kant's solution supplies some certainty to the *experienceable* future (and thereby offers some response to Hume's general predicament) it does not in fact assist the scientific method in offering a cogent response to Hume's predicament of induction in connection with the *inexperienceable* past, present and future, i.e. realms of the Universe that scientists, including Kant as can be evinced in his work *The Universal Theory of the Heavens* among others (Wicks, 2014: 7-9), are undoubtedly interested in exploring. For one need only consider the obvious fact that science (in particular cosmology and biology) attempts to give an explanation of phenomena which are, by their very nature, *incapable* of human experience. Here I am thinking in particular of the origins of our solar system and life upon Earth as well as its ultimate and inevitable fate. No one was extant to witness the birth of our Sun or the appearance of the first life forms, just as no one will witness the demise of both and yet, in spite of Hume's criticisms, scientists have not hesitated to offer humanity a most elaborate causal description of both phenomena.

[104] One may object that Kant (A226/B273-B274) permitted the possibility of making inferences about unobserved phenomena, thereby undermining my claim that it is impossible to know the inexperienceable past, present and future. However, it is imperative in this regard to note that Kant (A226/B273) considers sensation (or intuition) as essential to the actuality of phenomena. Thus, although one may propound hypotheses which extend far beyond what is experienceable these must in the last analysis be regarded as solely tentative and never as definitive of reality. In other words, a scientist may propound a theory about the inexperienceable regions of the Universe so long as these accord "with laws of the empirical connection of appearances" (Kant, B274), however, as these theories do not entail sensation they cannot constitute genuine experience (although they do not and must not violate it) and may therefore be regarded as only potentially or possibly credible, i.e. assuming, of course, that sensations or intuitions admit of no variation but are monolithic throughout.

Now when one takes into consideration the fact that in propounding his epistemological philosophy Kant sought to salvage science from Hume's scepticism, upon close consideration it becomes evident that the notion of synthetic *a priori* knowledge does not truly do so, for all it permits one to know with certainty is the potentially *experienceable* future; however, science, I reiterate, strives to know that which is by its very nature incapable of experience.

Some may object to my claim for the partial adequacy of Kant's solution to Hume's general predicament by indicating that in order for Kant to have truly resolved Hume's difficulty of causation he would have had to illustrate causation's mind-*independent* nature. But here a significant distinction between the notions of external and objective ought to be carefully borne in mind in connection with the Kantian philosophy. For Kant (1783/1985a: 41-44) the causal relation is rendered *objective* – and by implication empirically *real* (vide, Kant, 1783/1985a: 37) – by way of the sensory data being subsumed under the *a priori* category of causation. Thus, causation is certainly not to be regarded as chimerical as a consequence thereof, for Kant (B275; 1783/198a: 36-37, et al.) explicitly distances himself from such idealistic claims in both the second edition of the *Critique* as well as in the *Prolegomena*. Thus, it may be said that although causation is for both Hume and Kant "in the mind", it is subjectively "in the mind" for the former (Hume, 1739/1985: 218, et al.) and consequently (potentially) chimerical, but objectively "in the mind" for the latter (Kant, 1783/1985a: 41-44) and consequently a real (because invariant) feature of the experienceable world – and it is precisely in this sense that Kant's theory must be taken as resolving the Humean predicament. I cannot desist from observing that for causation to be *external* in the Kantian sense it would have to be a feature of the world as it is in-itself, i.e. the noumenal sphere or the *Ding-an-sich*. However, Kant (A250/B307, et al.) claims that nothing positive may be said of the noumenal realm and thus although causation *might* be a feature of the world as it is in-itself, there is ultimately no way to confirm this definitively on Kantian terms.

So much, then, for the adequacy of Kant's response. I must now turn to an earnest consideration of a number of particular difficulties pertaining to Kant's solution to Hume's *general* predicament of causation. As this undertaking is not the primary aim of my exposition (which was simply to determine whether or not Kant's philosophy may be taken to offer an adequate response to the Humean predicament of causation) I shall merely offer, in the Kantian spirit, a propaedeutic thereto. As such, I by no means wish to present here an exhaustive list of criticisms pertaining to Kant's general solution, nor do I wish to claim that

these criticisms are insoluble on Kantian terms or that the arguments are not at variance with each other; however, as it seemed to me unconscionable to omit them altogether from my discussion I have resolved to present them here in the hope that they may be taken up and elaborated upon by other Kantian scholars.

(3.12) Criticisms of Kant's General Response to Hume's Scepticism Concerning Causation in a General Sense

(3.12.1) The Possibility of Conceiving an Uncaused Beginning

Firstly, I must observe that as *a priori* concepts are known independently of all experience they are, as we know, subject to the law of non-contradiction, which states that "a proposition cannot be both true and false or that a thing cannot both have and not have a given property" (Grooten & Steenbergen, 1972: 90). Now if I pursue the nature of such propositions I find to my great astonishment that I am incapable of conceiving them contrary to the way in which I find them, i.e. I cannot conceive, for instance, a circle to be quadrangular or a square to be circular – their *a priority* appears to preclude any such contrary conceptions. Hence, it follows therefrom that if causality truly emanated from self-consciousness then it seems to me that we would be as incapable of conceiving an uncaused beginning as we are incapable of conceiving a round square, a triangular circle or that two plus two equals five – this, in spite of the former's apparent synthetic nature.[105] However, upon reflection it ought to become evident that one can indeed conceive of an uncaused beginning, as Hume (1739/1985: 127) correctly notes in the course of his discussion in the *Treatise*, but it is utterly impossible to conceive of a round square or a triangular circle.

[105] The notion of a proposition being "synthetic" simply means that the one idea is not contained in the other, i.e. the predicate is not contained within the subject. Ordinarily the concepts which comprise these (i.e. synthetic) propositions are separable, but if one adheres to Kant's (A9/B13) conception of the possibility of some synthetic propositions being *a priori* then it follows that, in spite of the dissimilarity in the concepts which comprise such propositions, they are *inseparable*. Examples such as "round circle" are inadequate in so far as "round" and "circle" are interchangeable, but I felt compelled to utilize them in order to render my argument as intelligible as possible. As I shall shortly argue the proposition: "the shortest distance between two points in Euclidean space is a straight line" is an illustration of a synthetic proposition which cannot be thought otherwise, i.e. I cannot conceive that the shortest distance between two points in Euclidean space is a bent or curved line.

In order to render this notion as perspicuous as possible let us return to a former criticism and observe that in spite of Kant's (A9/B13) claim for the synthetic nature of causal propositions, it may be justifiably argued that the *general* form of the causal principle is in fact analytic, for the notion of "everything that happens", etc. can be considered as synonymous with "effect" in the proposition: "everything that happens (i.e. effect) has its cause" (Kant, A9/B13). In this case it ought to be evident that the notion of cause is presupposed in the notion of effect and *vice versa*. Consequently, it would be just as non-sensical to declare an effect as uncaused as it would be to declare a circle to be triangular or a square circular, for no effect can be uncaused just as no circle can be a triangle and no circle can be a square.

But now, let us recall that in his *magnum opus* Hume (1739/1985: 127) maintains that it is "not intuitively certain" that "whatever has a beginning has also a cause of existence", by which Hume means quite simply that it *is possible* to conceive of something coming into existence without a cause thereof. It is also evident that Hume means this notion in the most general sense, for he does not refer in the course of his discussion to any *particular* entity in connection with the notion. Thus, we are compelled to conclude that, difficult as it may initially be for the philosophical novice, it is not impossible to conceive of something coming into existence without a cause. Now, if the general causal principle truly emanated from the mind, i.e. if the principle were truly *a priori*, then I maintain that, as a consequence of our aforementioned observations, it would be utterly impossible to separate the notion of cause from the notion of effect, i.e. it would not be possible to conceive an entity beginning to exist without a cause for its existence.

As a further corroboration of my point, let one compare the general causal proposition with that of another synthetic *a priori* proposition, viz., "the shortest distance between two points in Euclidean space is a straight line". Can one, I ask, conceive that the shortest distance between two points in Euclidean space be a curved line? I think it is evident that no such notion can be conceived and yet it *is* possible to conceive of an effect without an antecedent cause. I consequently propose this as the first argument in opposition to Kant's claim for the *a priority* of the general causal principle.

(3.12.2) The Failure of Causes to Materialise

The second objection that may be levelled against the Kantian claim for the *a priority* of the general causal principle is to be found in the fact that causal relations do not perpetually actualise or materialise; for instance, fire ordinarily burns paper but on some occasions (such as when the paper is wet) the fire may fail to manifest its effects. Now it seems to me that if the general causal principle truly emanated from one's mind, i.e. if it were thoroughly *a priori*, then one ought to expect the application of the principle to be uniform. Thus, the irregularly of the application of the causal principle appears to be a refutation of Kant's claim for its absolute *a priority*.

If one ventures to defend the Kantian position by arguing that other extraneous and external factors (such as the wetness of the paper in the aforementioned example) inhibit the application of the causal principle, thereby preventing it from materialising, then it seems to me that one has unwittingly admitted that causality cannot be entirely dependent upon the mind, thereby unintentionally undermining the claim for its a *priority*. Although I acknowledge that this argument does not definitively refute Kant's claim for the *a priority* of the causal principle, it ultimately illustrates that causation cannot be entirely mind-dependent.

(3.12.3) The Irregularity of the General Causal Principle Throughout Nature

Thirdly, and closely connected to the aforementioned objection, is the observation that if the causal principle were truly *a priori* then it seems it ought to manifest uniformly and not irregularly. Yet it is evident that there are many different and apparently oppositional causal relations in the Universe; for instance, fire burns paper but it melts ice.

One may object to my criticism by pointing out that Kant's argument for the *a priority* of causality pertains solely to the *general* form of the principle and not to its particular instantiations; thus every happening in the Universe is an effect, which necessarily had an antecedent cause, even if on some occasions fire burns while on others it melts.

Although I concede to this observation, I avow that the irregularity we observe in the particular manifestations of causal phenomena presents as a serious difficulty for the Kantian position, for it appears to mean that there is undoubtedly an *objective*, i.e. *a posteriori*,

element to the order or regularity we observe in macroscopic nature, i.e. something "out there" within the Universe as "thing-in-itself" is responsible for the way in which phenomena causally interact, which the finite human mind is at a loss to explicate.

(3.12.4) Synthetic *A Priori* Knowledge as Chimerical

An obvious objection to Kant's general thesis for the *a priority* of the causal principle – and one that Hume himself would undoubtedly have advocated had he lived to witness Kant's famous response to his scepticism concerning the causal principle (Merrill, 2010: 164) – may be directed towards the notion of synthetic cognition *a priori*, for it may be cogently argued that such cognition is, in the final analysis, chimerical or nonsensical, i.e. akin to the oxymoronic notion of a "triangular circle" or "deafening silence", etc. (Merrill, 2010: 164). Previously I intimated this objection when I observed that Kant's (A9/B13) claim that "every happening presupposes a cause" is semantically duplicitous in so far as the term "happening" can be taken as synonymous with "effect". In short, this amounts to the observation that all *a priori* propositions are analytic and cannot be otherwise, just as a circle cannot be quadrangular, a triangle cannot be circular, a bachelor cannot be a married woman and a vixen cannot be a male horse. Consequently, it follows that all *a priori* knowledge is merely and perpetually *explicative* and *never ampliative* (Kant, 1783/1985a: 12).

This argument – in which I contend that the causal principle must be conceived of as analytic and hence *a priori* – may appear to be at variance with the previous two, in which I concluded that causality must be, at least in part, external (i.e. *a posteriori*) to the observer and hence synthetic. Thus, it may be objected that I am contradictorily claiming that the causal principle is simultaneously analytic *and* synthetic. But here one need only invoke the dichotomy with which my exposition has been primarily concerned throughout, viz., the distinction between the general causal principle and the particular instantiations thereof. Thus, although the *general* causal proposition may be analytic and *a priori*, its *particular manifestations* within the world itself must always be synthetic and *a posteriori*. I indicated elsewhere that it seems to me that Kant's motivation for maintaining that the general causal principle is *a priori* and yet synthetic was to render it amenable to particular causal instantiations (which are always synthetic and *a posteriori*), i.e. by arguing that both the *a priori* and *a posteriori* forms of the causal principle are synthetic Kant seems to have thought that the former could be easily grafted onto the latter. The apparent contradiction here is

therefore spurious, but it highlights the difficulty of rendering the general causal principle amenable to the particular instantiations thereof. Perhaps this ultimately intimates that our rational conception of causality (given that it is analytic and *a priori*) must perpetually be at variance with the objective order and regularity within nature, i.e. the particular causal instantiations (which are necessarily synthetic and *a posteriori*), i.e. that the two are in essence distinct and that the latter does not emanate from the former.

(3.12.5) Objective, Mind-Independent Causation

A final difficulty with the *a priority* of the causal principle is explicitly mentioned by Schopenhauer (1819/1969a: 100) in his *magnum opus* in connection with his metaphysical theory concerning the Will and the body in which it is manifested, viz., how can the thing-in-itself *cause* appearances if the causal principle is brought to experience by way of the mind? Indeed, Kant (1783/1985a: 26-27, 87, et al.) himself alludes to a mind-*independent* form of causation in numerous places in his works. But if, of course, one takes Kant's (A9/B13) assertion regarding the *a priority* of the causal principle seriously then it becomes utterly impossible to explicate how the mysterious noumenal realm causes the individual to have any sensations. Here it is necessary to recall Kant's (B275) "*Refutation of Idealism*" which he included in the second edition of the *Critique of Pure Reason* (1787) and also emphasised in the *Prolegomena* (vide, Kant, 1783/1985a: 32-33, 78, et al.). Evidently what Kant meant by the inclusion of this significant addendum was that sensations have their ultimate source in the *noumenal sphere*, even if it is impossible to positively and definitively characterise that source. It follows therefrom that the noumenal sphere must *cause* the individual to have a kaleidoscope of intuitions or sensations, which the faculties of sensibility, understanding and imagination then transform into meaningful experiences. Hence, in propounding this notion of things-in-themselves causing intuitions or sensations Kant has *unwittingly* conceded to an objective form of causation.

It seems to me that there are two possible responses to this predicament. On the one hand, one may follow Schopenhauer (1819/1969a: 100) and argue, rather unconvincingly in my estimation, that every sensation is merely the opposite side of the same noumenal coin, as it were. Thus, on this interpretation, it is not that the noumenal sphere causes sensations, but merely that a sensation is a noumenal entity which enters perception. To my mind, this argument is spurious in so far as it attempts to merely bypass the initial difficulty, i.e. the

argument does not actually explicate the appearance of sensations within the mind or self-consciousness, it merely assumes them. It is akin to claiming that a photograph or a painting is the appearance of some extant object, without actually explicating how the photograph or the painting reproduces the appearance of the extant object.

A second, and in my estimation, far more convincing response would be to postulate the existence of an "objective causation", i.e. a causation that does not depend upon the human observer. Although this second argument is preferable, it does great violence to an orthodox or traditional interpretation of the Kantian philosophy and in particular to the notion of the *a priority* of the general causal principle. But in spite of this, one may retort in defence of Kant that although causality cannot be *known* to be a feature of the noumenal realm it may nonetheless be postulated as a possibility thereof. It is imperative to note, however, that this interpretation means that causality may be *mind-independent*, in which case Kant's "solution" to Hume's scepticism regarding the causal principle is unwittingly undermined – and this, of course, is the very reason I made mention of this difficulty.

With these five tentative objections to the Kantian notion of an *a priori* conception of a general causation – which are not intended as either definitive or exhaustive – I thus conclude my exposition; confident that I have not only answered my initial question, viz., whether Kant can be taken to have offered an adequate response to the Humean particular instantiations predicament of causation, but that I have also illustrated the difficulties inherent to Kant's (1783/1985: 6) seemingly fortuitous – i.e. in so far as it appears unintended – response to Hume's general predicament of causation, which undermine the credibility thereof. In conjunction with this last point, I have also indicated a far more profound way in which Hume's observations in the first book of his *Treatise* can be interpreted, viz., as pointing to the notion that the order or regularity within macroscopic nature is in fact something truly mysterious and that causation may not in fact be the real or genuine explication for this, but merely an illusory concoction of the human mind (cf. Russell, 1912: 1).

(3.13) The Mystery of Nature's Orderliness

In this respect, one final point I am obligated to mention is my maverick interpretation of Hume's (1739/1985: 218) argument as presented in the first book of his *Treatise*, viz., that

the causal principle or necessary connection is nothing more than a chimerical hypothesis or conjecture of the human mind, postulated to account for the orderliness we observe in nature, from which it follows that the real reason for this regularity is hidden from us and consequently remains a mystery, i.e. ineffable to the human mind. That Kant is taken not to have read the *Treatise* (Watkins, 2005: 364) – at least not in its entirety (Ewing, 1924: 15) – precludes the possibility of excoriating Kant for misunderstanding Hume's ultimate intentions, for in the *Enquiry* this notion, although present in so far as Hume (1848/1993a: 50) illustrates that necessary connection is not discoverable *a posteriori*, is not elaborated upon or made the central point of his argument therein. But in spite of this, the fact remains that Kant may be guilty of that which he accused others of, viz., of misunderstanding Hume (Kant, 1783/1985a: 4).

But I anticipate that some may venture to criticize my interpretation by noting that Hume is a radical *empiricist* – not, like Kant (1783/1985a: 37) a transcendental or critical idealist – and hence it follows that for Hume that which one experiences *is* precisely what exists, not a mere appearance. In other words, the radical empiricist may retort in objection to my claim that causation is a mere chimera of the mind, that although he does not witness any necessary connection in objective nature, the notion nonetheless emanates from an impression, i.e. from one's conviction or belief that certain phenomena must be necessarily connected – and hence it is incorrect to construe Hume as maintaining that causation or necessary connection is an illusion, for it does indeed correspond to an impression.

But in response thereto, I retort that what is needed is the very impression of an *actual* necessary connection, not a mere sentiment which arises by way of custom or habit (Hume, 1748/1993a: 50). In this way I maintain that my interpretation is vindicated, but if one should remain incredulous I shall refer him to the following observation: when Hume (1739/1985: 262) discusses our conception of impressions and ideas, he correctly observes that they are solely perceptions of objects and that the latter must ultimately remain inscrutable to the observer. As a consequence thereof, Hume (1739/1985: 262) is unable to explicate what ultimately is responsible for the impressions and ideas we possess – they may perhaps be akin to the objects of our impressions and the ideas which derive therefrom; or, they may perhaps be radically distinct therefrom, such as thoughts in the mind of a Deity or something else entirely. Now if we apply this observation to causation we are necessarily led to the following conclusion: constant conjunction itself presupposes an order or regularity in

experienceable nature, but what ultimately accounts for this we do not and cannot know; *psychologically* (cf. Ayer, 2000: 9) it appears to us to be the principle of causation but whether or not this accords with ultimate reality is hidden from us in nature's "infinite book of secrecy". In anticipation of what Schopenhauer (1819/1969a: 417) termed "Kant's greatest merit", viz., the distinction between noumena and phenomena, Hume can be construed to hold that causation is merely a perception of awareness that may or may not correspond to ultimate reality.

This interpretation of Hume happily coincides with my criticism of Kant's response. For it is evident that upon close consideration, as we did in the course of this exposition, that the identification of causation as a synthetic concept *a priori* (Kant, 1783/1985a: 40) can in no way definitively reveal how one particular phenomenon is causally connected to another, thereby precluding Kant's response from being an adequate solution to Hume's particular instantiations predicament of causation. But, moreover, the fact that Kant's seemingly fortuitous solution to Hume's general predicament of causation (as found expressed most conspicuously in the first book of his *Treatise*) may be subjected to such serious criticisms intimates that it, too, is ultimately untenable and inadequate. Thus, I conjecture that if Kant had read the first book of Hume's *Treatise* prior to his composition of the *Critique of Pure Reason*, he may have arrived at a similar conclusion regarding the principle of causation, i.e. to the one I have reached. But if Kant had conceived of the order or regularity within macroscopic nature as potentially being due to something ineffable – and not to the causal principle, as is ordinarily understood – he may not have been inspired to write the first *Critique* (i.e. in so far as he then may have judged the concept of causation to be chimerical and indefensible) and the history of Western Philosophy would undoubtedly have unfolded very differently. Let us, in consequence of that last observation, be grateful to Kant, not solely for his accurate insights, but also for the mistakes he may have made.

(4) Concluding Remarks

As we have seen, in his two most celebrated and famous works, viz., the first book of *A Treatise of Human Nature* and *An Enquiry Concerning Human Understanding*, Hume (1739/1985: 216, 218 & 1748/1993a: 50) propounds two distinct "predicaments of causation", i.e. a general predicament and a particular instantiations predicament, respectively. I argued that although the general reading is most prominent in the *Treatise* and the particular instantiations reading is most conspicuous in the *Enquiry* (Allison, 1983: 216), both readings can in fact be found in both works, albeit in rudimentary states (vide, Hume, 1739/1985: 130 & Hume, 1748/1993a: 50). However, as I illustrated elsewhere, although the general predicament is found in the first *Enquiry*, i.e. in so far as Hume (1748/1993a: 50-52) argues that causation and necessary connection arise by way of custom or habit, he does not explicitly argue for the mind-dependence of the causal principle in that work as he does in the first book of the *Treatise* (Hume, 17391/985: 218, et al.).

The confusion generated in both Humean and Kantian scholarship is the fact that Kant is ordinarily taken to have read solely the first *Enquiry* (Watkins, 2005: 364), wherein the particular instantiations reading is to be found most prominently expressed (Allison, 1983: 216). As I have illustrated, Kant does not in fact offer an adequate response to Hume's "particular instantiations" predicament of causation in so far as he is not able to illustrate how a particular entity can indeed be apodictically known to be the cause of another particular phenomenon, even though Kant (1783/1985a: 6) regarded himself to have successfully resolved this predicament.[106] But as I illustrated herein, like Hume (1739/1985: 127), Kant (1783/1985a: 54-55, 69) maintains that such knowledge can only be discovered *a posteriori*. However, Kant does offer a seemingly cogent, albeit possibly fortuitous (for it seems to have been unintended), response to Hume's (1739/1985: 216) *general* predicament of causation in so far as he illustrates that the mind contains within itself a general conception of causation, which it ubiquitously applies to all phenomenal experiences (Kant, 1783/1985a: 60). In spite

[106] It will be recalled that in the *Prolegomena* Kant (1783/1985a: 6) explicitly states that he "tried first whether Hume's objection could not be put into a general form", intimating that he was indeed responding to the particular instantiations predicament as expounded in the first *Enquiry*. Kant (1783/1985a: 6) then subsequently claims "[…] I had succeeded in solving Hume's problem […]", indicating that he regarded himself as ultimately successful in his endeavour, a conclusion I have disputed in my exposition.

of this, I have concluded my work by proposing tentative criticisms of Kant's general theory of causation, which I regard as problematical, for I argue, in contradistinction to Kant (1783/1985a: 4), that Hume's predicament may be construed in a far more profound sense, viz., by intimating that the orderliness of macroscopic nature is mysterious and ultimately ineffable to our finite human minds. Thus, although Kant does not offer an adequate response to Hume's (1739/1985: 130; 1748/1993a: 50) particular instantiations predicament of causation – which he (Kant, 1783/1985a: 6) seems to have intended to do – he (Kant, 1783/1985a: 6, 55) nonetheless offers a seemingly fortuitous (i.e., possibly unintended), albeit problematic and circumscribed, response to Hume's (1739/1985: 216, 218) general predicament of causation.

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